ANNUAL ADMINISTRATION REPORT

OF THE

FOREST DEPARTMENT

OF THE

MADRAS PRESIDENCY

FOR THE

TWELVE MONTHS ENDING 30TH JUNE 1917

1916-1917

அமரர் சி. அருணாசல முதலியார்
அவர்களின் நினைவாக அன்பளிப்பு
அளிப்பவர்:
திருமதி சியாமளா அருணாசலம்
(1982) சீர்காழி.

MADRAS:
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS
1917

ERRATA TO THE FOREST ADMINISTRATION REPORT FOR 1916–17.

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(1) *Paragraph* 34, *page* 11 *of the Circle reports*.—In line 14 *insert* a full stop after the word " bridle path ", and in line 15, *delete* the words " were constructed ".

(2) *Paragraph* 42, *page* 13.—In the second line of the sub-paragraph *insert* " and " as the first word.

(3) *Paragraph* 80, *page* 25.—In the beginning of line 3 of the sub-paragraph under " cultural operations ", *for* the word " and " *substitute* " but ".

(4) *Paragraph* 139, *page* 36.—In line 4 *for* the word " Malaiyalis " *substitute* " Malayalis ".

(5) *Paragraph* 141, *page* 36.—In line 7, leave space between the words " of " and " timber ".

(6) *Paragraph* 145, *page* 37.—*Insert* " (*c*) " before the words " outturn and sources of Forest produce ", printed as heading.

(7) *Paragraph* 148, *page* 39.—In line 6 of the sub-paragraph under " By purchasers—Major produce ", *for* the words " 40 infra " *substitute* " 152 infra ".

(8) *Paragraph* 152, *page* 43.—*Insert* the words " Western Circle " in the margin against the paragraph.

(9) *Paragraph* 152, *page* 44.—In line 4 of the sub-paragraph under " Expenditure—A Conservancy and Works ", *for* the word " Nilgirs " *substitute* " Nilgiris ".

(10) *Page* 47.—In line 2 of the first sub-paragraph under (*b*) after the words " South Vellore " *insert* the words " for the benefit of the students of the Madras Forest College who have a standing camp at that place " and *delete* the word " Forest " in the third line of the same sub-paragraph

(11) *Paragraph* 228, *page* 57.—In line 3, *insert* the word " they " between the words " done " and " were ".

(12) *Paragraph* 273, *page* 67.—In last line *for* " low landers " *substitute* " lowlanders ".

(13) *Page* 75.—In the sub-paragraph under " Health and conduct of students ", *for* the word " Phyrexia " *substitute* " Pyrexia " and *for* the word " gastrites ", *substitute* " gastritis ".

ANNUAL ADMINISTRATION REPORT OF THE FOREST DEPARTMENT

FOR THE

FOREST YEAR ENDING 30TH JUNE 1917.

CHAPTER I.—CONSTITUTION OF STATE FORESTS.

1. ALTERATION IN AREA.

The following statement shows the abstract of changes in forest areas:— *Northern Circle.*

Class.	Area on 1st July 1916.	Added during the year.	Excluded during the year.	Area on 30th June 1917.
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Reserved forests	4,605	5	3	4,607
Do. lands	492	1	8	485
Leased forests	2	..	..	2
Total ..	5,099	6	11	5,094

Reserved forests.—Four square miles in *Gōdāvari Upper* and a block of less than a square mile in *Ganjām* were finally constituted reserved forests and an area aggregating one square mile was added in *Gōdāvari Upper*, *Lower* and in *Kistna* by rectification of area, two square miles in *Kistna* and one square mile in *Kurnool West* were disafforested.

Reserved lands.—Four square miles were transferred to reserved forests in *Gōdāvari Upper* and *Ganjām*, the initial notifications in *Gōdāvari Upper* in respect of four square miles were cancelled and in *Kistna* the disafforested reserve of Gunadala was renotified by the Collector under rule 5 of the rules under section 26 of the Forest Act and handed over to a Revenue panchayat.

2. *Reserved forests.*—The total area decreased from 5,755 to 5,729 square miles. Six hundred and thirty acres were transferred from reserved lands and 1,271 were added by resurvey. Sixteen thousand five hundred and thirty acres were disafforested, and 17 acres were transferred to Revenue Department. Two thousand one hundred and twenty acres were handed over to Putlampalli shrotriemdar out of which 1,768 acres were acquired under section 4 notification sanctioned in Board's Proceedings Forest No. 78, dated 23rd May 1916. *Central Circle.*

Reserved lands.—The area remained the same. Four hundred and twenty-seven acres were notified under section 4 and 630 were transferred to reserved forests.

3. *Reserved forests.*—Four hundred and sixty-one acres were added by transfer from reserved lands and 1,441 acres disafforested. *Southern Circle.*

Reserved lands.—Nine hundred and sixty-seven acres were notified reserved lands, 190 acres were thrown out at Forest Settlement and initial notifications in respect of 155 acres were cancelled.

The total area of the reserved forests and reserved lands at the close of the year was 4,406 square miles against 4,408 square miles of the previous year.

4 *Reserved forests.*—The total area decreased from 4,142 to 4,133 square miles. One thousand and thirty-four acres were transferred from reserved lands, 590 acres added by the adoption of Survey of India areas and twelve square miles disafforested. *Western Circle.*

Reserved lands.—One hundred and fifty-two acres consisting of enclosures in reserved forests and unreserved lands and 44 acres owing to the adoption of Survey of India areas were added. 1,034 acres were transferred to reserved forests and 14 acres excluded at settlement. Sixty-seven acres of toda patta lands in the *Nilgiris* were notified under section 4 of the Forest Act. The area at the close of the year was 105 square miles, of which 96 are leased forests in the *Nilgiris* and *South Malabar* and 4·5 "toda patta" lands in the former division.

2. FOREST SETTLEMENT.

Northern Circle.

5. Of the eleven blocks (492 square miles) remaining unsettled at the commencement of the year four blocks were transferred to reserved forests, the initial notifications in respect of two blocks were cancelled, two blocks were settled, but reservation took effect after the close of the year and three blocks (418 square miles) were left unsettled at the end of the year. Of these three, two are pending in the *Upper* and one in the *Lower Gōdāvari*.

Central Circle.

6. Two blocks in *Anantapur*, two in *South Cuddapah* and two in *Nellore* were finally settled. Eight blocks are pending final settlement and 22 are undergoing settlement as noted in Form No. 66.

Southern Circle.

7. Settlement is complete in all districts except North and South Salem and Trichinopoly.

North Salem.—Final reports for the four blocks comprised in Udedurgam reserve which were forwarded to the Board have been returned for revision and one of these is pending with the Forest Settlement Officer.

South Salem.—The settlement of the Jarugumalai block is pending with the Collector to whom appeals have been preferred by some of the claimants under section 14 of the Forest Act. The appeal filed in the Sessions Court by the claimants of Arana and Thirthagiri blocks is still pending.

Trichinopoly.—Final reports in respect of Gundūr and Ariyur Shola blocks which were submitted to the Board have been returned for revision and are pending with the Revenue Divisional Officer.

Western Circle.

8. Four blocks in the *Nilgiris*, six in *Kollegal* and one block in each of *Central* and *South Coimbatore* aggregating 1·6 square miles, were finally settled and transferred to reserved forests. Four blocks of ·333 square mile were brought under settlement. The balance under settlement at the close of the year was eleven blocks of 3·7 square miles; but the actual settlement of two of these was completed. The delay in the settlement of three pending blocks in *North Coimbatore* has been taken notice of by the Collector.

3. DEMARCATION.

Northern Circle.

9. The demarcation of 24 miles of reserve boundary in *Vizagapatam* was carried out at a cost of Rs. 359. Maintenance of 588 miles of boundary cost Rs. 2,461 the remainder 4,288 miles being kept up by forest subordinates free of cost. The average cost per mile of demarcation was Rs. 14–15–4 and of repairs Rs. 4–2–11 against Rs. 22–0–0 and Rs. 5–10–9 respectively in the previous year; the decreased cost is due to half the cost having been incurred in the previous year and the decrease under repairs is due to the exclusion of the cost of sign boards, etc., now properly debited to other heads.

Central Circle.

10. Five miles were newly demarcated in *Bellary* at a cost of Rs. 95. Fourteen miles in *Anantapur* at a cost of Rs. 191 and Rs. 4,756 was spent in repairing and improving 4,376 miles of the existing boundaries already demarcated. The decrease in expenditure is due to the curtailment of expenditure owing to the war. One hundred miles of permanent demarcation with solid stone pillars surrounded by well-packed cairns of stones and with a lock-spit or a two feet wide stone alignment were completed.

Southern Circl .

11. Final demarcation was carried out in Madura over a length of 67 miles. In South Arcot, the outer boundaries in all class II reserves were verified with the notification and sketch. In North Salem, Rs. 689 was spent during the year in the verification and rectification of reserve boundaries and enclosures. A great deal of

work in this direction has still to be done more especially in the demarcation of enclosures in North Salem and on Javadis in South and West Vellore. 68·5 miles remained to be permanently demarcated at the close of the year of which 59 miles are in Madura. Rupees 1,300 were spent from political funds in demarcating the Madura-Travancore boundary to a length of 30 miles.

Out of the total length of 7,632 miles of old boundaries repaired during the year, 6,547 miles are reported to have been cleared or repaired free of cost by subordinates and the balance of 1,085 miles was cleared at a cost of Rs. 1,569.

12. *New boundaries.*—Four miles in *North Malabar*, six in the *Nilgiris* and two in *North Coimbatore* were demarcated at a total cost of Rs. 966. The six miles in the *Nilgiris* included 4½ miles of newly cut district boundary between that district and *Coimbatore*. The average cost per mile of fresh demarcation rose from Rs. 61–6–6 to Rs. 80–8–0. The increase was due to heavy clearing of jungle and increased cost of trenching in *North Malabar* and to inaccessibility and scarcity of labour in the *Nilgiris*. *Old boundaries.*—The length of old boundaries repaired during the year was 1,165 miles against 848 miles in the previous year; of this length 665 miles were cleared by subordinates free of cost. The subordinates continued to maintain boundaries in *Mangalore*, the *Nilgiris* and *Kollegal*, but the results were not recorded; no clearing was reported to have been done in *South Malabar*. One hundred and twenty-four miles which included ten miles of district boundary were repaired in the *Nilgiris*. This was practically fresh and substantial demarcation in accordance with the verification by the special staff. The average cost per mile of repairs increased from Rs. 31–5–7 to Rs. 45–15–0. The increase was mainly in the *Nilgiris* and was due to the reasons assigned for the increased cost of fresh demarcation. *Western Circle.*

The total length of boundaries at the close of the year was 7,997 miles of which 6,743 miles were demarcated and 886 miles do not require artificial demarcation; the balance that remained still to be demarcated was 368 miles of which 223 miles were in *Kollegal*. Progress could not be made owing to the financial restrictions.

4. Forest Surveys.

(a) *By Survey of India.*

13. The preparation of special Divisional maps of *Ganjām*, *East*, *South* and *West Kurnools* on the scale of four miles to one inch was taken in hand and the "India" diagram showing annual revenue, expenditure and surplus for the 10 years 1905–06 to 1914–15 was published. *Northern Circle.*

(b) *By Departmental Survey.*

During the year Rs. 5,389 were spent on forest surveys. No final maps were prepared although maps were wanting for 124 square miles of forests in *Kistna*, three square miles in *Kurnool East*, 95 in *Kurnool South* and 280 in *Kurnool West* as reported in the previous year. The field work during the year consisted chiefly in the verification of boundaries, alignment of roads and fire lines and preparation of coupe, working-plan, fire and other maps, a work which appears to have been considerably overlooked in the past.

(a) *By Survey of India.*

14. During the year the party confined its operations to *Nellore* district only. 114·537 square miles were surveyed on 4″ scale and 64·592 square miles on 2″ scale. *Central Circle.*

By Madras Survey Party.

One surveyor was deputed to *West Cuddapah* to survey the discrepant boundaries of Yerrakonda.

(b) *By Departmental Surveys.*

During the year, the reconnaissance report for Adōni range referred to in the last report was completed and Board's orders obtained in Board's Proceedings, Forest No. 27, dated 1st March 1917. One surveyor was appointed in *West Cuddapah* in the latter part of the year to survey Idupulapaya palmyra plantation.

Survey of coupes, verification and rectification of boundaries, alignment of roads and the preparation of coupe, working-plan and fire maps were as usual done by the departmental staff.

(c) Maps.

The reference maps referred to in section 80 of the Forest Code are reported to have been maintained and posted in all the districts.

Two maps published during the year by the Forest Map Officer are (1) Red Sanders area in Cuddapah district and (2) India diagram.

(a) By the Survey of India Party.

Southern Circle.

15. No surveys were undertaken.

(b) Madras Survey Party.

The revision survey operations by the Madras Survey Party continued in Madura, South Arcot and South Vellore and the Forest discrepancy sketches have been returned verified.

(c) By Departmental Survey.

All coupes were surveyed by ordinary staff except in North and South Salem where surveyors were employed and in Madura where similar work was done by a supervisor.

A variety of survey works such as verification of reserve boundaries, surveying and aligning of roads and surveying and demarcation of old coupes was done by the existing staff and departmental surveyors.

(d) Maps.

Reference maps referred to in section 80 *of the Forest Code.*—These are reported to have been maintained in all districts.

(a) By the Survey of India Party.

Western Circle.

16. A special surveyor deputed by the Survey of India completed the final survey of nine teak plantations covering 3,206 acres in *South Malabar* and prepared maps for them on 8-inch scale. One hundred and twenty-two chains in the New Amarampalam reserve were also surveyed by theodolite. The total cost amounted to Rs. 2,585.

(b) Local Surveys.

All coupes, two small roads and areas under improvement fellings in *Mangalore South*, areas under ponam cultivation in *North Malabar* and two bridle paths in *Kollegal*, were surveyed departmentally. A surveyor deputed by the Madras Survey department completed the survey of seven estates on the Anamalais and another surveyor from the same department surveyed and recleared five and a half miles of the Cochin frontier boundary.

(c) Maps.

Reference maps under section 80 *of the Madras Forest Code.*—These are reported to have been maintained and posted except the range reference maps in *Kollegal* which were being prepared.

Special district reference maps.—The maps of *Malabar* divisions were in the Forest Map office at Dehra Dun pending publication.

CHAPTER II. MANAGEMENT OF STATE FORESTS.

I. Regulation of management.

(a) Preparation and control of regular working plans.

Northern Circle.

17. *Preparation.*—In *Ganjām* the original intention to prepare a Working Plan for the intensive working of the "Sal" area amounting to about 10 per cent of the entire reserved forest area and one on more general lines for the other 90 per cent was modified under the oral advice of the Inspector-General of Forests who visited

this Presidency and it was decided that a single plan with a uniform system for the two better classes of pure plains Sal areas should be prepared. Further at the suggestion of the Inspector-General the District Forest Officer visited the Sal forests near Dehra Dun and Gorakhpur so as to see for himself the new treatments which are being applied to similar Sal forests in the United Provinces. Observation areas in which effects of clear felling, sowing and improvement fellings of varying intensities could be watched were laid out and with the aid of the additional establishment sanctioned the work of selection, demarcation and mapping of Sal blocks is proceeding smoothly and expeditiously, so much so that a reconnaissance report will soon be prepared and the final plan may be expected to be finished by March 1918. In *Vizagapatam* Mr. D. A. Stracey, Extra Assistant Conservator, prepared a working-plan for the grazing in the Yellamanchili working circle comprising nine square miles which include an area of two square miles for which there is already a working-plan. This is held up as it apparently does not fall in with the "village grazing" scheme propounded some time ago. Working-plans for the systematic working of bamboos on a five-year rotation are under preparation by the District Forest Officer. In *Gōdāvari Upper* a preliminary tentative working-plan for an area of 107 square miles of Marrigudem range was prepared by the District Forest Officer and has been sanctioned since the close of the year. In *Gōdāvari Lower* a tentative working scheme for 233 square miles in Peddapur and Gokavaram ranges was sanctioned towards the close of the year and preliminary working-plans for Polavaram and Rajahmundry ranges comprising an area of 147 square miles are under preparation. In *Kurnool East* a preliminary working-plan for Cumbum range comprising an area of 195 square miles was prepared, but it is still under revision and recompilation.

18. *Control.*—The prescriptions of the sanctioned working-plans have been generally adhered to except in the following:—

Ganjām—Timber in certain unreserves prescribed for departmental extraction was leased to contractors, listing of dead and dying trees in a block was not done for want of establishment and three bamboo coupes were not sold as they fell in the beat of one or more man-eating tigers. An estimate for a road was not completed, alignment not having been finished, construction of a road diversion was dropped and a portion of a road which fell in arrears was constructed, erection of a bridge was given up in favour of a road-dam, construction of kitchens and out-houses for certain range quarters, two inspection sheds with out-houses and a subordinate's quarters and certain wells were deferred principally on account of the general shortage of funds caused by the war.

Vizagapatam.—The cutting and burning of an outer boundary not prescribed in the working-plan was newly sanctioned and the privilege of free removal of timber to the people of Makaram valley was withdrawn under Board's orders in its Proceedings Forest No. 1497, Routine, dated 9th December 1916, as they had ample unreserves close to their village.

Gōdāvari Lower.—The prescriptions of the working-plan of the Kandikuppa Casuarina Plantation were not followed as the area has to be disafforested after the standing growth has been disposed of. Pending sanction of a revised working-plan for the Coringa reserve, the tentative plan of operations based on the prescriptions to be observed is being followed with the Board's approval.

Kistna.—A timber coupe was not sold for want of demand. In no case is the whole area to be cut over a year completed; in Kondapalli and Bandamcherla no attempt is made to work except on the fairly level ground.

Kurnool South.—Coupes for timber and fuel not provided for in the working-plans of Chelama, Sirvel and Giddalore ranges were worked under improvement fellings.

Kurnool West.—The stone walling in the Yerramalais in Kurnool West was postponed till the end of the year.

Revision.—A revised working-plan prepared for the 11 square miles of Mangrove forests of Coringa reserve in *Gōdavari Lower* was returned by the Board for further revision and rotation of the Upputeru working-plan in *Kistna* was increased from 5 to 10 years.

New working-plans for Berhampur range in *Ganjām* and for Gundlakamma and Owk ranges in *Kurnool South* are required: the period of 10 years for the Terai working-plans in *Kurnool West* having expired, its revision is being considered. It appears too that the *Kistna* working-plans all or nearly all require revision.

Central Circle.

19. *Preparation.*—In *Bellary*, the reconnaissance report for the Adōni range forests was approved by the Board in Board's Proceedings, Forest No. 27, dated 1st March 1917. The simple working-plan for the forests of the Harpanahalli range was tentatively approved by the Conservator. The working-plan for Sandur leased forest was submitted to the Board. In *Guntūr*, the following working-plans were tentatively approved by the Conservator:—Babul areas of Lam, Kolakalur and Kuragallu working circles, Takkellapad and Kondavid working plans. Tentative working schemes for the forests of Sattenapalle and Repalle taluks were received from the District Forest Officer but they were returned for further revision and that for Bapatla taluk is under correspondence. In *North Cuddapah* division, Palakonda fuel working circle sanctioned in Board's Proceedings, Forest No. 127, dated 8th July 1908, and Lankamalais Bullmen fuel working circle, Sidhout series sanctioned in Board's Proceedings, Forest No. 150, dated 1st August 1908, were cancelled by the Board in Board's Proceedings, Forest Nos. 1272, Routine, dated 23rd October 1916 and 1355, Routine, dated 10th November 1916, respectively. Re-allocation of coupes in Nandalur-Vontimitta fuel working circle was sanctioned in Board's Proceedings, Forest No. 261, Mis., dated 31st August 1916. In *West Cuddapah*, a working-plan for Idupulapaya Palmyra plantation has been prepared and is being submitted to Board for sanction. In *Nellore*, a working-plan for the Podalakur, Prabhagiripatnam and Ayyagaripalem reserves in the Rapur range was sanctioned in Board's Proceedings, Forest No. 63, dated 22nd May 1917. In *Chingleput*, a revised working-plan for the forests of the Chingleput range was sanctioned in Board's Proceedings, Forest No. 67, dated 16th June 1917, and a similar plan for the forests of the Tiruvallur range was submitted to Board. In *Chittoor*, all the old working-plans in the district were cancelled in Board's Proceedings, Forest No. 298, Mis., dated 11th October 1916, and revised plans are under preparation.

No satisfactory progress in the preparation of working-plans is possible with the present hopelessly inadequate forest staff.

20. *Control—Bellary.*—All coupes in the Harpanahalli working-plans except one were sold. *Anantapur.*—Compartment No. I of Katrimela West, Coupe III of Penukonda and Rallahalli working circles and compartment I of Rallahalli and compartment II of Southern working circles were thrown open to grazing being V class reserves. The working-plans in this district are also in need of revision. *Guntur.*—The working-plans for Lam, Kuragallu and Takkellapad were put in force from 1st April 1917. *North Cuddapah.*—The prescribed coupes in Sidhout, Kanamalopalli, Ponnole series, Badvel East, Sancherla and Porumamilla South fuel working circles were not sold as there were arrear coupes to be sold first. Badvel West series and Porumamilla North series were not worked for want of demand. *South Cuddapah.*—Three coupes were not sold for want of demand. *West Cuddapah and Chittoor.*—The prescriptions were generally adhered to. *Nellore.*—Some coupes were not sold partly due to shortage of Railway rolling stock and partly to previous coupes remaining unfelled. *Chingleput.*—Several arrear coupes were sold and five grazing blocks were sold under the kancha system.

Southern Circle.

21. *Preparation.*—The working-plan for the Palar river side plantations in North Arcot, the Hosur sandalwood working-plan in North Salem and the revised working-plan for the fuel forests of the Madura district referred to in the previous year's report were sanctioned during the year.

South Arcot.—Simple working-plans for the class II forests of the Tirukkoyilūr range and Talanayar and Kodiakadu reserved forests of Tanjore district were prepared and are being scrutinized.

North Salem.—A preliminary working scheme for the sandalwood areas in Dharmapuri range was sanctioned by the Conservator. Reconnaissance reports for revised plans in the Dharmapuri and Krishnagiri ranges were prepared and approved by the Conservator.

South Salem.—A revised working-plan for the Kouramalai group of reserves has been sanctioned by the Board.

Trichinopoly.—A draft working-plan for 16·37 square miles of Cassan forests in the Udayarpalayam is being prepared but has not as yet been submitted for sanction.

Tinnevelly.—A working-plans party was sanctioned after the close of the year and has begun work in this district.

22. *Control.*—The prescriptions of the working-plans have generally been adhered to with the following important exceptions :—

North Vellore.—Out of 40 fuel coupes selected according to the Conservator's instructions for exploitation during the year, only 23 were sold.

South Vellore.—Out of 32 fuel coupes proposed for working during the year, 30 coupes (2,183 acres) were worked and the remaining two (99 acres) have since been sold in 1917–18.

In addition to the ordinary fellings in coupe II of each of the sandalwood fellings series, an extraordinary felling had to be undertaken during the year which was necessitated by the cyclone of the 22nd November 1916. Consequently work was postponed in coupe No. III of each series. A similar policy was pursued in West Vellore.

West Vellore.—Out of 8 fuel coupes (1,080 acres) proposed for working during the year, only 5 coupes (737 acres) were worked.

South Arcot.—The prescriptions of the working-plans were not adhered to owing to changes in the classification of reserves and the general policy of opening for cultivation the plains reserves of this district. In consequence the growth on 32,423 acres was sold outright.

North Salem.—Except for the sandal areas in the three hill ranges, the working-plans are under revision.

South Salem.—Out of 43 fuel coupes proposed for working, only 21 were worked.

Trichinopoly.—This district, like South Arcot, is at present in a state of flux. Reserves in the plains are either being given up for cultivation or placed under panchayat management. Similarly the policy for the hill forests is being altered so as to place sandal extraction on a better footing and to win the co-operation of the Malayalees. In consequence, the prescriptions of the old working-plan are completely out of date.

Madura.—As but little progress could be made on road work under the provision of the new working-plan a re-allotment of coupes was necessitated in eight felling series. The eradication of prickly-pear in two felling series was postponed as the estimate of cost greatly exceeded that given in the working-plan.

23. *Preparation.*—Mr. Wilson, Special Working-plans Officer, had enumerations made in two out of the 36 compartments of Tekadi leased forests covering 17,414 acres and prepared the report of his working-plan reconnaissance He was deputed to military duty by the middle of October 1916 after which M.R.Ry. M. R. Sundram Ayyar, Probationary Extra Assistant Conservator, continued the work of enumeration and Mr. Wood took charge of the special staff from the latter end of January 1917. The enumeration was started under the classification (1) healthy and (2) dead and hollow trees. It was afterwards found that this classification would give a very false idea of the saleable outturn but unfortunately not until almost the whole of the Tekadi compartments had been finished. The classification was then changed to (1) serviceable (2) unserviceable (for timber production) and three compartments were re-enumerated, in the hope that some sufficiently constant factor would work out between the serviceable and healthy classes of the two countings so as to save a re-enumeration of the whole working circle *de novo*. This was not successful from that point of view and three other compartments were taken in hand. The results lately received indicate that the re-enumeration just referred to cannot be avoided. Tree analyses are also in progress. *Western Circle.*

Revision.—Mr. Bourne with a special staff continued to collect data and statistics which are voluminous for completing the preparation of the final working-plan for the teak plantations in *South Malabar*. An addendum to the working-plan for the *Nilgiri* plantations laying down a felling series for six years in block I of the Coonoor Eucalyptus coppice working circle was sanctioned. The Gobichettipalayam

working-plan in *North Coimbatore* was revised. By this revision, an additional area of three square miles was brought under its operation and the felling series were rearranged. The revised working-plans for the forests of Mettupalayam range and for Tadagam reserve in *Central Coimbatore* were sanctioned. The revision of the plan for the forests of Erode range could not be taken up as the District Forest Officer was engaged in other works and found no leisure to attend to it. We have come to the end of the Begur and Chedleth working-plans in *North Malabar* and as soon as the working-plan party has finished with Tekadi it will be sent there.

There are still 1,385 square miles for which working-plans have to be prepared and many of the sanctioned working-plans in the circle require revision.

24. *Control.*—The prescriptions of the working-plans were generally adhered to with the following important deviations: *Mangalore North*— Many of the fuel coupes set apart for the supply of sandal stills in Udipi range could not be worked for want of demand. *Mangalore South*— The felling in Shiradi timber working circle was behindhand by four years and the Puttur town fuel working circle was closed for want of demand. *North Malabar*— The felling in Chedleth coupe II is backward owing to failure of the contractor to whom coupes were sold in 1915. The *Nilgiris*— Compartment 5 of Mudumalai working circle was worked instead of compartment 4 owing to the delay in the construction of bridges on the Thorapalli road. Compartment 8, block II of Coonoor Acacia working circle, prescribed for 1915–16 was felled during the year. A portion of compartment 3, block VI Governorshola working circle, in which regular felling is not prescribed was felled to supplement the supply of firewood to Ootacamund town. *Kollegal*— The felling in Araipalayam fuel coupes was in arrears owing to lack of demand and to the large area prescribed for annual working. The sandal working plans in *Kollegal* and *North Coimbatore* have been abandoned owing to the ravages of "spike" which has disorganized all the schemes. Fuel coupe X of Kavalur working circle in *North Coimbatore* which is devoid of growth was given up and the next coupe felled. The working plans for Talamalai range in *North Coimbatore*, Bolampatti blocks in *Central Coimbatore* and Talinji working circle in *South Coimbatore* remained unworkable as in previous years. *Central Coimbatore*— Bamboos were not extracted from Sholakarai and Walayar working circles owing to extermination of bamboos after seeding three years back. The timber operations in the Varigali valley and planting operations in compartment II of Mount Stuart working circle were not undertaken; the working plans are under revision. The felling in coupes IX and X of Punachi working circle continued but only dead trees and those damaged by fire were felled. The fuel coupes in all the working circles were felled but their prescribed size being unworkable was not adhered to.

25. *Preliminary working-plans reports.*—Systematic working in two bamboo coupes in *Mangalore South*, three fuel coupes in *Kollegal*, ten fuel, twelve bamboo and three sandalwood coupes in *North Coimbatore* and three fuel and three bamboo coupes in *Central Coimbatore* were carried out. The statistics for the preparation of formal schemes in *North Coimbatore* were complete.

(*b*) *Annual plan of operations.*

Northern Circle.

26. The sanctioned plans of operations were generally followed, except as detailed under working-plans above and in the following cases:—

Ganjām.—Departmental working of timber was given up where contractors were available and vice versa; six fuel coupes and one bamboo coupe which were not down for working were sold as demand was found for them; 4,285 lb. of Bassia latifolia seeds were collected and supplied without profit to Dowgam oil mills for experimental purposes and 200 bags of myrabolams were collected departmentally to increase the supply of tanning materials; the construction of two furlongs of road and quarters for a Range officer was taken up; the proposed forest poramboke lands of the Uriya parts of the Pondakhol range were demarcated at the request of the Survey department (the matter of excluding these areas from extension of cultivation by closing them as grazing porambokes being left to be decided by the Settlement Officer) and cutting in heaps and burning the unsaleable wood and refuse on fire lines was not carried out as the condition of the lines was good.

Vizagapatam.—The construction of the bridle path from Kondasantha to Tadarparti was not taken up till after the close of the year.

Gōdāvari, Lower.—Three wells and a combined subordinates' quarters and the bunding up of a stream for storing water were given up, funds being needed for more urgent works.

Kistna.—Repairs to a range quarters were not done, the building having collapsed during the heavy rains; rectification of the boundary lines of two reserves was not done as the surveyor was engaged otherwise; mada seeds were not sown in the Kanur reserve—the reason given "owing to floods and rains" is not convincing as neither floods nor rain would have done the seed or seedlings any harm; fencing and sowing of babul seeds in 24 acres of Nachugunta reserve were not done for want of seeds; compensation for the site for the Range office at Kondapalli was not paid, the site not having been finally selected. It was found unnecessary to deepen the Malakalanka canal during this year

Kurnool, East.—The proposed collection of timber from fire lines was given up as the lines were not approved; fuel was collected in place of freeing natural seedlings under improvement and the construction of three bridle paths and a cart-track and repairs to a few cart-tracks and subordinates' quarters and sheds were not undertaken for want of funds.

Kurnool, South.—Certain roads and buildings were postponed on the ground of war economy.

Kurnool, West.—Improvements to a spring in the Nallamalais in one locality were given up in favour of one in another locality and the bunding operations in a range were abandoned as other work was found for the Chenchus.

27. The sanctioned annual plans of operations could not be strictly adhered to on account of curtailment of expenditure due to war. *Central Circle.*

28. The chief deviations in the annual plan of operations were the postponement of certain roads and buildings due partly to the financial situation and partly to the difficulty of obtaining labour. Buildings which are much needed in the Javadi hills of South and West Vellore had unfortunately to be postponed for want of labour. In Trichinopoly, the building of sandalwood godowns which are an immediate necessity was given preference over other works laid down in the plan of operations. *Southern Circle.*

29. Owing to financial stress there were numerous deviations from the sanctioned plans. The chief of them, besides those mentioned in paragraph 24 supra were: *Mangalore North.*—The extension of Chittoor road was not taken up as it was not required. Inspection bungalow at Kerveshe was given up in favour of urgent works. The stone-lining of some of the reserves was postponed pending verification of boundaries. *Mangalore South.*—Repairs to certain roads were not carried out. Deputy Ranger's quarters at Sullia and guards' sheds in three places were not constructed for want of funds. Demarcation of two reserves was not carried out owing to discrepancies in the boundary descriptions. *North Malabar.*—Naikal road was not commenced. Subordinates' quarters at four places and demarcation of certain reserves were not undertaken for want of funds. *South Malabar.*—Two cart roads, three bridle paths and the Deputy Ranger's quarters at Nellikutta were deferred for want of funds. The river training works were not carried out pending investigation by the Public Works department. The demarcation of Silent valley reserve was postponed for want of labour. Two roads (Nellikutta-Palat and Kunhirakadavu-Pulimunda) and a tanna at Mundayanthodumukku which were not provided for in the plan of operations were constructed. The *Nilgiris.*—A road along the Nilgiri-Mysore boundary, a store room at Kargudi and range quarters at Segur were deferred for want of funds. The College main road in Coonoor range was postponed owing to delay in the acquisition of land. *Kollegal.*—Construction of subordinates' quarters at Mattipuram and Ponnachi and rest-house at Cowdalli, demarcation of Chikkailur and Edayarhalli reserves and of enclosures in Madeswaranmalai were postponed for want of funds. *North Coimbatore.*—Coupe X of Burgur sandalwood working circle was not exploited as there was no sandal growth. Tamarakarai-Sengolam and Hassanur-Hulikarai roads were not continued pending orders as to their necessity. Rest-houses at Kempanaikanpalayam, Chennampatti and Ullurthanda, demarcation of North Burgur reserve and the improvement of water-supply in some of the reserves were put off partly for want of funds and partly on account of the heavy programme of works. *Western Circle.*

Central Coimbatore.—Improvement fellings in Tadagam and Mettupalayam forests were not carried out as the working plans were not sanctioned in time. Dead timber from the Elival forests was not extracted for want of establishment. Some of the fuel and bamboo coupes prescribed for the year were not exploited either for want of demand or because the felling in previous year's coupes was in arrears. Several of the road and building works were given up for want of establishment and funds. *South Coimbatore.*—The felling in Tekadi leased forests was stopped owing to the large stock of timber awaiting transport from the forests. Continuation of the Varigali valley road was pending further investigation. Inspection bungalows in Punachi working circle and at Ulandi and subordinates' quarters at six different places were put off for want of funds. Some road and building works were given up in favour of more urgent works.

2. Communications and Buildings.

Northern Circle.

30. The total expenditure on new works amounted to Rs. 24,433 and on repairs Rs. 35,911 as compared with Rs. 28,611 and Rs. 83,033 respectively in the previous year. The decrease is due to greater economy observed on account of war, only absolutely essential works being carried out.

(a) *Roads and bridges.*

The important works of a permanent nature executed during the year were:—

Ganjām.—Construction of 1 mile 4 furlongs of road in the Pondakhol Range; a third bridge across the Odangi Nalla and a bridge costing Rs. 5,650 across the Rushikulya river at Pippalaponka. *Kistna.*—The Yerrakuruva Hill road was completed and the road from Yegaram on the local fund road to Ramasingavaram Reserve was begun. *Kurnool East.*—Cart-tracks from district boundary line to Tummalabailu, and from Yetambhavi to Ustalapaya and completion of cart-track from Chintala to Tummalabailu, bridle paths to Garnapenta, from Nekkanti to Morricheruvu, from Chilakacherla to Bommalingam via Nootibhavi, foot-path from Narthadikala to Nekkanti and about 35 miles of foot-paths along fire lines. A suspension bridge made of the fibre of *Bauhinia Vahlii* over Odangi Nalla which is likely to last for two seasons was constructed in *Ganjām.* A sum of Rs. 5,000 was contributed from each of the *East* and *South* divisions of *Kurnool* towards the upkeep of the Nallamalai Ghat roads under the control of Local Board.

Central Circle.

31. The outlay on communications and buildings is shown below:—

	1915–16.	1916–17.
	RS.	RS.
Roads and bridges	13,181	13,214
Buildings	22,461	17,183
Other works	866	812
Total ...	36,508	31,209

The decrease in expenditure under the last two heads is due to the postponement of works on account of the war.

(a) *Roads and bridges.*

32. The chief works are.—In *North Cuddapah*, Nilapuram-Dasaripalle road was completed and the Nallamalais, Narasimhabhavi and Kothabhavi roads were in progress. In *South Cuddapah*, conversion of Vathalur-Thummalabylu cart-track into a road, formation of roads from Kodivengammabhavi to Kodur and from the foot of the hill to the bungalow site at Kodivengammabhavi were completed while the construction of Balapalle-Mogilipenta road, formation of a cart-track from Arimanipenta to Bodeddulabhavi and the construction of a cart-track to join Kodur range boundary were in progress. In *West Cuddapah*, the construction of Guvvalacheruvu-Korthimadugu road, Ganganapalle extension-Polathala road and conversion of Palakonda Sandramanipenta and Kondagorlapenta-Bhakarapet bridle paths into cart-tracks were in progress. In *Nellore*, construction of bridle traces in the hills and the conversion of compartment and boundary lines into inspection paths were carried out. In *Chingleput*, construction of a culvert in Guindy Park reserve and the laying out of

two branch roads in Ambakkam reserved forest were completed. In *Chittoor*, the road trace of Nagapatla-Bhakarapet and Pulibone-Chamala road was completed and these road works as well as the bridle-path through coupe IX of Kalroddipalle working circle and the repair to Mamandur-Puliutla road were in progress.

Tramways.—Temporary tramway lines were laid for the transport of fuel and poles from the casuarina coupes to the Buckingham canal and from Sriharikota reserve to the canal. The use of the lines and tracks is granted to the contractors on hire. Three thousand seven hundred and sixty-five tons were transported over the Sriharikota tram line and 1,045 tons over the Nellore line as against 1,518 and 927, respectively, in the previous year.

(a) Roads and bridges.

33. The total expenditure on new works amounted to Rs. 56,240 and on repairs to Rs. 16,184 as compared with Rs. 5,371 and Rs. 14,997 in the previous year. The increase was due to the expenditure incurred by the Forest Engineer on road works having been met from Forest funds. *Southern Circle.*

The most important work of the Forest Engineer was the construction of the Alangayam-Komattiyur Ghat road. The first section of five miles was completed and work on the other two sections well advanced. Rupees 47,457 were spent out of a total estimate of Rs. 1,11,400.

In addition, the alignment of the Nadanur-Amerdi road was selected and passed by the Superintending Engineer and the Conservator.

The chief new works done during the year were the construction—

in *North Vellore* of (1) Pinnathurai-Amerdi road two miles at a cost of Rs. 774.

(2) Thottalam-Naickaneri road one mile and two furlongs at the cost of Rs. 647.

(3) Charagal-Naickaneri road one mile and one furlong at a cost of Rs. 832.

in *South Salem* of the Varagur-Namagiripet road one mile and two furlongs at a cost of Rs. 263.

in *Trichinopoly* of the Pillayarnatham-Kalpatti road two miles at a cost of Rs. 521.

A large amount of work was done in repair and improvement work more especially in—

(1) *Madura.*—One hundred and nineteen miles of roads at a cost of Rs. 5,316.

(2) *Tinnevelly.*—Rupees 4,895 spent chiefly on improvement to the Papanasam Ghat road.

(3) *North Salem.*—Ninety miles at a cost of Rs. 2,529.

(4) *South Salem.*—Forty-three miles of roads and bridle-paths at a cost of Rs. 1,009.

(5) *Trichinopoly.*—Ninety-nine miles chiefly bridle-paths at a cost of Rs. 1,689.

(a) Roads and bridges.

34. The amount spent under this head was Rs. 44,459 against Rs. 42,850 in the previous year; of the former, a sum of Rs. 19,880 was spent on new works and the balance on repairs against Rs. 17,175 and Rs. 25,675, respectively, in 1915–16. Fifty-one and a half miles of new cart roads, bridle-paths, etc., were added and $383\frac{1}{2}$ miles were repaired during the year. Important new works of the year: *Mangalore North.*—About six miles of roads for extraction of fuel and timber. *Mangalore South.*—The length of new works is given as $8\frac{7}{8}$ miles, while the cost incurred was small, i.e., Rs. 136. This has not been explained. Presumably temporary roads were made for carting fuel. *South Malabar.*—Seven and a quarter miles of cart-tracks and nine miles of bridle-paths. The *Nilgiris.*—The completion of Mudumalai-Thorapalli road and the roads in Bleakhouse and Coonoor Peak reserved forests and the commencement of bridges on the Mudumalai-Thorapalli road, a bridle-path between blocks II and III of Mudumalai working circle and a road in block II of Snowdon working circle. *Kollegal.*—The construction of two miles of bridle-path were constructed. *North Coimbatore.*—The construction of two and a half miles of ghat road. *South Coimbatore.*—The extension of tram line and the construction and improvement of bridges. *Western Circle.*

35. *Tramways.*—The tramway in Tekadi leased forests was extended by ten furlongs. Traction was done mostly by Government bullocks and buffaloes. The working of the year showed a net profit of Rs. 11,192 against Rs. 1,441 in the previous year; the profit was the highest on record. The outturn of work during the year increased from 3,691 to 11,434 ton-miles and the working charges decreased by 50 per cent which was due to larger quantity of timber trammed during the year. The credit for this improvement is due to the energy and resource displayed by the District Forest Officer.

36. *The work of the Forest Engineer.*—The Forest Engineer completed the field work of the Tekadi tramway trace, the estimates and plans for which await the decision of the Forest Commissioner, whether bullock or mechanical power is to be adopted for working the system. Provisional estimates for each have been prepared by the Forest Engineer and the District Forest Officer respectively. The trace has been inspected under Government orders by the Superintending Engineer, Public Works Department, IV Circle, and it is understood is approved, but no intimation to that effect has been received. He revised also the estimates and plans for the New Mount Stuart ghat road and the estimates are pending with Government.

(*b*) *Buildings.*

Northern Circle.

37. The following permanent buildings were under construction :—

Ganjām.—Quarters for the Rusellkonda Range officer, *Kurnool South*, Range office buildings and quarters for the Ranger at Racherla, rest and out-houses at Utla and at Aliabad, *Kurnool West*, inspection bungalow at Praema for the combined use of Forest and Fisheries department.

The following were completed during the year :—

Gōdāvari Upper.—Range shed with out-houses at Somanamalla, *Gōdāvari Lower*, rest-house at Veerabhadrapuram, subordinates' quarters at Urrinka, *Kurnool East*, inspection shed at Guttalcheruvu and two others with out-houses at Iswarakuppam and Narthadikala, Deputy Rangers' quarters with shop at Nekkanti, *Kurnool South*, quarters for Range clerk and peons at Iskagundam, rest and out-houses at Iskagundam, *Kurnool West*, cattle pound at Pechervu.

A tanna shed at Bamsolundi in *Ganjām* and three sheds in *Kurnool South*, one at Bandlagedda for housing the tannadar, one at Sandrapodu for providing shelter for the students of the Vernacular Training School and a third at Utla for the patrol staff were the temporary structures constructed during the year.

Central Circle.

38. The important new works of the year are :—In *Guntūr*, the construction of an inspection shed at Mutukur was in progress. In *North Cuddapah*, inspection sheds at Jothi and Mallapalle, and combined range office and quarters at Porumamilla were completed while the combined range office and quarters at Vonipenta was in progress. In *South Cuddapah*, construction of a rest-house and out-houses at Kodivengammabbavi and of subordinates' quarters at Papanasam and Rachapalle were in progress. In *West Cuddapah*, construction of out-houses to Veeraballi rest-house and of Gudibylu and Mangalabylu patrol sheds were completed while the construction of rest-houses at Gadikota and Polathala, combined range office and quarters and subordinates' quarters at Sanipaya were in progress. In *Nellore*, inspection shed at Vedullacheruvu and a wall around the compound of the range office and quarters at Dachur were completed, while the construction of out-houses to Gonupalli rest-house, inspection shed at Nakkamuthi and Forest guards' quarters at Mavalam were in progress. In *Chingleput*, construction of out-houses to Kambakkam hill bungalow and tiling the out-house to Nagalapuram rest-house were in progress. In *Chittoor*, construction of quarters to forester at Mamandur, stables to Panapakkam rest-house and preparation of a site for a rest-house in Bommasamudram A reserved forest were in progress.

Southern Circle.

39. During the year the total expenditure on new buildings and on repairs amounted to Rs. 21,240 and Rs. 10,321 respectively against Rs. 23,075 and Rs. 15,005 in the previous year.

North Vellore.—Construction of subordinates' quarters at Charagal and Rangampet and part construction of rest-house at Thongamalai and out-houses at Amerdi.

South Vellore.—Completion of the range office building at Santavasal and of the sandalwood chipping shed at Vellore and part construction of subordinates' quarters at Burgur and Thongamalai.

West Vellore.—Construction of a new range office at Tirupattur and part construction of rest-house and outhouses at Pudur and Kuttathur and subordinates' quarters at Kuttathur. In addition a rest-house at Kavalur was nearly completed by the Forest Engineer.

North Salem.—The range officer's quarters at Danishpet and Mecheri were completed. At Dharmapuri a new range office and a sandalwood godown were nearing completion. Progress was also made on the range office at Mecheri and on sandalwood godowns at Aiyur, Jowlagiri and Anchetti. Several inspection sheds were also completed.

South Salem.—A sandalwood godown at Harur was completed and some progress made on the ranger's quarters and range office at Kottapatti. A rest-house with outhouses at Mayambadi, the centre of the Pachamalai hills, was begun.

Trichinopoly.—Completion of the subordinates' quarters at Puliansholai. In addition, progress was made in the construction of sandalwood godowns at Namakkal, Valappur, Sobanapuram and Pudur.

Tinnevelly.—Completion of subordinates' quarters at Nambi Ar.

40. The expenditure on new buildings amounted to Rs. 20,448 and on repairs and maintenance to Rs. 8,445 ; the figures for the previous year were Rs. 32,899 and Rs. 11,896 respectively. The expenditure during the year was much curtailed owing to the war. The principal new works of the year were— *Mangalore North.*— — The completion of the range quarters at Karkal and the inspection shed at Naravi. *Mangalore South.*— The completion of the inspection bungalows at Kolchar and Kollamogar and the commencement of deputy ranger's quarters at the latter place. The inspection bungalow at Bandihalla was nearing completion. *North Malabar.*— The Range quarters at Manantoddy and the Range office at Kanoth were completed. *South Malabar.*— The Range quarters at Nedungayam was in progress. Guard's quarters at Edacode and Arimbrakutha and the tanna at Mundayanthodumukku were constructed. The *Nilgiris.*— A rest-house at Doddakatti and subordinates' lines at Kargudi. *Kollegal.*— Subordinates' quarters at Gundal and out-houses at Ponnachi. *North Coimbatore.*— The completion of the rest-house at Jeergahalli and four sets of subordinates' lines. The rest-house at Koilnattam was in progress. *Central Coimbatore.*— Rest-house at Chindaki was completed and that at Kunjapanai continued ; subordinates' quarters at Attapadi neared completion. *Western Circle.*

(c) *Miscellaneous works.*

41. The chief works carried out were the repairs of tanks, sinking of new and repairs to old wells, clearing of springs and digging and widening channels ; bunding of various streams in the Nallamalais of *Kurnool East* and *West* districts was undertaken to provide work for Chenchus. *Northern Circle.*

42. The chief works were the repair of wells and water-sources. *Central Circle.*

In *North Cuddapah*, sinking of a well in Porumamilla range office compound, in *South Cuddapah*, digging a trial well at Kodivengammabhavi were in progress. In *West Cuddapah*, sinking a well in the compound of Veeraballi rest-house was completed. In *Nellore*, Rs. 467 were spent on the construction of wells and Rs. 565 on the repairs and improvements of ponds to supply water for cattle in kancha grazing areas. In *Chingleput*, removing silt from the wells in the compounds of rest-houses, cleaning and levelling the ground in the compound of Kambakkam Hill bungalow and lockspitting and fencing the compounds of rest-houses at Sathiavedu and Allikuli and of Enathivet shed were done. In *Chittoor*, sinking of a well at Parakalatippa in Mamandur was in progress.

43. Nine new wells were sunk and existing wells were repaired or deepened. The principal work under this head was the attempt to improve the water-supply in the Javadis by means of tube wells. This work was chiefly in the hands of the Agricultural Engineering Department and unfortunately small progress was made as the department found it so difficult to keep their subordinates on the hills through fear of fever. Shafts were however sunk at Komattiyeri, Mandaparai and Nadanur. *Southern Circle.*

Western Circle.

44. The total expenditure was Rs. 2,041 against Rs. 4,464 in the previous year. The chief works carried out were the sinking of two wells in *Mangalore North* and two in *North Coimbatore* which were in progress, the improvement of water-supply to the forest camp at Kargudi in the *Nilgiris*, the training of the Paishwani river in *Mangalore South* and the construction of a timber boom in *South Malabar*.

Telephone.—The telephone service in *South Coimbatore* was in use, but it is reported that the line was not always properly maintained by the line-man employed by the Telegraph department.

3. Protection of Forests.

(*a*) *General protection.*

Northern Circle.

45. The following statement shows the number and classification of Forest offences brought to light during the year :—

Cases.	Injury by fire.		Unauthorized fellings.		Unauthorized grazing.		Other offences.		Total.	
	1915–16.	1916–17.	1915–16.	1916–17.	1915–16	1916–17.	1915–16.	1916–17.	1915–16.	1916–17.
Cases taken into court ..	10	5	471	360	148	135	52	36	681	536
Cases compounded ..	10	5	1,977	2,016	612	459	132	159	2,731	2,639
Cases undetected ..	216	148	206	169	21	12	..	3	443	332
Total ..	236	158	2,654	2,545	781	606	184	198	3,855	3,507

The number of cases reported was less than in the previous year under all the heads except under " other offences " the decrease being ascribed to better supervision under the patrol system. In *Kurnool East* orders were passed by the Collector to introduce the system recommended by the Forest Committee and approved by Government of letting off all offenders who were caught grazing their cattle or goats illicitly in any of the reserves placed in class V without any further punishment beyond impounding the cattle.

46. There were 446 cases pending at the beginning and 494 at the end of the year ; of these latter 101 were with Magistrates. Out of the cases brought to trial during the year 549 ended in conviction and 75 in acquittal against 722 and 64 respectively in the previous year, the percentage of failure being 12·02 against 8·14 in the previous year. The increase in the percentage of failure was chiefly in *Kistna* due to weakness of evidence generally and to the acquittal of all cases in unreserved lands, while the fall in *Ganjām* was due to the careful supervision exercised by the Extra Assistant Conservator and in *Kurnool West* the decrease in acquittals is ascribed to the patrol system of protection.

The inadequate punishments awarded in grazing offences by the Subordinate Magistrate in *Kistna* were brought to the notice of higher authority.

47. *Closure of forests to grazing for not reporting or preventing illicit grazing or other offences on a large scale.*—The grazing area adjoining Papienipalle village in *Kurnool East* was closed for six months as a punishment to the villagers for not rendering assistance in putting out fires caused in the Cumbum Range and this seemed to have had the desired effect. Certain villagers of *Kurnool West* were warned of the suspension of the concession of free removal of grass from the Nallamalais and the Yerramalais on account of failure to render assistance in extinguishing fires during the year. In *Kurnool South* a very serious outbreak of fires in Sirvel range is put down to incendiarism ; it is not clear that any action is being taken.

48. Two thousand two hundred and seventy-seven cases were compounded for Rs. 22,286 against 2,410 cases for Rs. 25,416 in the previous year. There were fewer cases and of a less serious nature than those of the previous year.

49. A few rewards were given for assistance in the detection of forest offences and for co-operation in protecting the forests from fire. The Khonds in *Ganjām* were rewarded with rice and bulls for cultivation and in *Gōdāvari Upper* the Koyas and Reddis were given money rewards personally distributed by the District Forest Officer.

50. The following statement shows the number and classification of forest offences compared with the previous year :— *Central Circle.*

Class.	Injury to forests by fire.		Unauthorised felling.		Unauthorized grazing.		Other offences.		Total.	
	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.
1. Cases taken into court.	20	7	1,082	1,235	1,086	868	98	84	2,286	2,194
2. Cases compounded ..	5	9	3,813	3,691	2,837	2,637	149	185	6,804	6,522
3. Cases undetected ..	307	328	153	97	423	226	1	8	884	659
Total	332	344	5,048	5,023	4,346	3,731	248	277	9,974	9,375

There was decrease under felling and grazing and a slight increase in injury to forests by fire and other offences.

The decrease under felling and grazing is due—(1) to formation of panchayats, (2) to efficient patrol of the special patrols entertained and greater number of cattle having been licensed, and (3) to extension of kancha system and to non-cognizance of petty cases in kancha areas which were left to kanchadars to deal with.

Of the 2,444 cases taken into court, 2,263 were convicted and 181 acquitted and the percentage of failure fell from 10 per cent of last year to 7·4 per cent during the year.

Six thousand one hundred and twenty-four cases were compounded for Rs. 65,203 against 6,657 cases for Rs. 76,943 in the previous year.

Rupees 2,704 were realized by fines imposed on kanchadars for breaches of kancha rules.

The punishments awarded by the magistrates are in many cases inadequate especially in *Chittoor*.

51. Rewards were granted in *Anantapur*, *North* and *West Cuddapah*, *Chingleput* and *Chittoor*, to an amount of Rs. 313 for successful detection of forest offences the chief of which are—

In *Anantapur*, Rs. 35 were awarded in a case of illicit browsing in which the accused were fined Rs. 560 and Rs. 33 in a case in which two influential men were fined Rs. 100 each. In *West Cuddapah*, Rs. 36 were awarded in a case of wilful incendiarism in which the accused was sentenced to six months' rigorous imprisonment and to pay a fine of Rs. 50 to the department as compensation.

52. *The rules for the guidance of Forest Officers in compounding Forest offences* in G.O. No. 1990, dated 13th June 1910, and the rules prohibiting District Forest Officers passing orders to confiscate the seized property when compounding an offence were generally observed.

53. The following statement shows the number of offences of the year compared with the previous year :— *Southern Circle.*

Cases.	Injury to forests by fire.		Unauthorized felling.		Unauthorized grazing.		Other offences.		Total cases.	
	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.
Cases taken into court ..	21	7	3,070	2,405	676	497	105	83	3,872	2,992
Cases compounded ..	4	3	6,912	6,059	1,702	1,653	213	162	8,831	7,877
Cases undetected ..	630	439	120	113	43	9	..	1	793	562
Total ..	655	449	10,102	8,577	2,421	2,159	318	246	13,496	11,431

The total number of cases in reserves has decreased by 1,698 and in unreserves by 367. This decrease occurs in every kind of offence and is found in every district and may be attributed to the policy which is now being pursued.

Out of 11,431 cases, no less than 3,338 refer to unreserves and out of 8,577 cases of unauthorized felling, 5,310 relate to reserves and 3,267 to unreserves. The decrease in unreserved cases is partly due to figures for offences committed in Usilampatti division unreserves of Madura district not having been included on account of the non-receipt of figures from the Revenue Divisional Officer.

Cases brought to trial.

Year.	Convictions.	Acquittals.	Percentage of failure.
1915–16	3,948	210	5·05
1916–17	3,651	146	3·84

In *North* and *South Vellore* (including *West Vellore*) there was a substantial decrease in the number of cases brought to trial.

Cases compounded.

Year.	Number of cases.	Amount.
		RS.
1915–16	7,898	56,054
1916–17	6,827	57,607

In fixing the amount of compensation attention was generally paid to the orders contained in G.O. No. 1990, dated 13th June 1910. Somewhat heavier compounding fees were levied for offences in specially protected blocks in *North Vellore* and *South Salem* and for cases of goat browsing and for organised illicit fellings in *South Arcot.*

In West Vellore, an important case of theft of sandalwood from the Javadi forests was successfully prosecuted and the accused concerned was sentenced under the Penal Code to undergo simple imprisonment for one year (in consideration of his age) and under the Transit Rules to pay a fine of Rs. 150. The conviction and sentence were upheld on appeal.

In South Arcot, an important case of sandalwood smuggling from South Salem forests by the Kalroyen Jaghir contractors of South Arcot district was detected and four tons of sandalwood were seized. The case is under investigation.

In South Salem, three cases of sandalwood thefts ended in conviction. The subordinates of Harur Range (from Ranger down to watchers 15 in number) were severely assaulted by the villagers of Marudipatti in connection with the detection of a case of illicit grazing of one hundred goats. Five of the accused were sentenced by the Sub-divisional Magistrate to undergo 15 months' rigorous imprisonment and 17 nine months' rigorous imprisonment each.

54. *Rewards.*— Small rewards were given in Madura, Trichinopoly, North Salem and West Vellore, but on the whole the power of granting rewards was used sparingly.

Western Circle.

55. The offences reported during the year are compared with those of the previous year and with the average of the three years ending with 1915–16 in the following statement :—

Class.	Injury to forest by fire.		Unauthorized felling.		Unauthorized grazing.		Other offences.		Total cases.		Average for three years ending 1915–1916.
	1915–16.	1916–17.	1915–16.	1916–17	1915–16.	1916–17.	1915–16.	1916–17.	1915–16.	1916–17.	
Cases taken into court.	41	31	410	275	142	96	86	93	679	495	647
Cases compounded.	25	69	1,699	2,016	483	564	167	275	2,374	2,924	2,490
Cases undetected.	456	302	25	40	18	10	8	3	507	355	347
Total ..	522	402	2,134	2,331	643	670	261	371	3,560	3,774	3,484

NOTE.—The offences of 1915–16 in the unreserved lands of Central Coimbatore are included in the above.

The total number of offences reported increased by about 6 per cent over those of the previous year and 8·3 per cent over the average of the three preceding years. Compared with the figures of the previous year, there was a decrease of 23 per cent under 'Injury by fire' and an increase under the other heads. The decrease under 'Injury by fire' was due to a general fall in the number of fire occurrences and occurred chiefly in *North Coimbatore* due to a better season and perhaps also to the punitive measures taken for incendiarism in the previous year followed by the warning of quadrupling grazing fees for its continuance, in *Central Coimbatore* to better season and in *South Coimbatore* to better protection. The increase under 'Unauthorized felling' and 'Other offences' was due chiefly to the inclusion of offences in unreserved lands in *Central Coimbatore*, whilst that under 'unauthorized grazing' occurred chiefly in *Mangalore North* as well as in *North Coimbatore* where owing to the doubling of fees referred to above there was a temptation to slip in unlicensed cattle along with the others. The District Forest Officer explains that the figures are misleading, as though the number of cases increased, that of the cattle involved was less by about 20 per cent.

The number of offences prosecuted during the year was 495 and there were 214 pending from previous year. Out of the total of 709 cases, 579 were disposed of and 130 remained pending. The 579 disposed of cases resulted in 526 convictions, 47 acquittals and six withdrawals; the percentage of conviction was 92 against 90 in the previous year. The number of cases withdrawn after being taken to court decreased from fourteen to six. The punishments inflicted by the Magistrates were generally satisfactory.

Thefts of sandalwood by organized gangs from unreserved lands in *Mangalore North* continue. The position here is not improving and the Forest Commissioner has lately intimated his intention of holding a local inquiry. Thefts of manure from grazing grounds on the plateau in *The Nilgiris* are reported to have been a source of considerable trouble and complaint and are not easy of detection. Magistrates are reported to take a lenient view of such offences. If this means the removal of cattle droppings, I do not think it should be treated as an offence, and it would do no practical harm if no notice was taken of it. *South Coimbatore*—Timber thefts from the forests adjoining Malayandipatnam village are reported to be rife. In one case two accused were fined Rs. 50 each.

Compounded offences.—The number of cases compounded and the amount of fees realized were 2,673 and Rs. 31,272, respectively, against 2,341 and Rs. 24,400 in the previous year. The figures of the year include those of 1915–16 relating to unreserved lands in *Central Coimbatore.* The increase is partly due to the increase in the number of offences compounded and partly to heavier fees levied especially in *North Coimbatore* owing to the raising of grazing fees. The rules for compounding grazing offences were observed generally.

Undetected offences.—The number of undetected cases compared with those of the previous year decreased by 30 per cent. Eighty-five per cent of such cases was under 'Injury by fire.' All fire occurrences except those caused in fire-tracing were treated as offences.

Holding adjacent villagers responsible for commission of offences in particular forests.—The notifications of warning to villagers on the subject were as usual published in *Mangalore North* and in *Coimbatores.* Owing to the occurrence of a large number of fires in the Moyar valley in *North Coimbatore*, the penning of cattle within a prescribed area was prohibited. The system is not workable in *The Nilgiris* and not required in *Malabar* where the number of offences is very small. No action was taken in *Mangalore South.*

56. *Rewards—Mangalore North.*—A sum of Rs. 68 was granted as rewards for successful detection of sandalwood thefts. A forest guard in *Mangalore South* was rewarded Rs. 4 for detecting the theft of a teak tree in Yenmur reserve. *South Malabar*—Rs. 10 were granted to a tannadar, a watcher and two others who secured a timber raft containing a big log illicitly removed. *The Nilgiris*—A reward of Rs. 5 was given to subordinates who detected a grazing case. The Game Association paid Rs. 30 to forest subordinates for detecting cases of poaching. *North Coimbatore*—Rs. 21 were given to five subordinates in two cases of illicit removal of timber. One Salt Sub-Inspector was given a free grant of twelve pounds of sandalwood for having detected a case of sandalwood theft.

(b) Protection from fire.

Northern Circle.

57. The areas attempted and protected are given in Form 72. The system of fire protection was the same as in previous years except in *Ganjām* and *Kurnool East* where the entire width of the fire lines was cleared and burnt and the system of having boundary and fire lines cut and cleared by purchasers of the growth thereon as in *Kurnool South* was adopted in *Kurnool West* where feasible, but the practice of providing employment for the Chenchus on forest works under departmental supervision forbids this in the majority of cases.

Fire protection works were undertaken much earlier on account of stringent orders issued by my predecessor. The percentage protected from fire in the years 1915–16 and 1916–17 has been as follows :—

	1915–16.	1916–17.
Ganjām	92·98	99·77
Vizagapatam	97·23	99·98
Gōdāvari, Lower	96·81	99·88
Do. Upper	74·87	94·91
Kistna	93·79	99·83
Kurnool East	84·24	88·23
Do. South	79·52	81·49
Do. West	84·81	90·71
Average for the Northern Circle ...	88·03	94·35

The season was very favourable, but the results are due also in large measure to a lot of very strenuous work on the part of all officers and are very creditable.

58. *General.*—A sum of Rs. 54,461 was spent during the year on fire protection against Rs. 57,442 spent in the previous year. The area dealt with was almost the same as in the previous year. In the whole circle 4,225 square miles were successfully protected against 3,927 square miles in the previous year and the proportion of failure fell from 14·77 to 8·32 ; the cost per square mile successfully protected also fell from Rs. 14–10–0 to Rs. 12–14–2 ; the fall is due chiefly to the earlier rains.

Appendix A shows the number and origin of fires.

Central Circle.

59. There was no change in the system of fire protection. The area of forest tracts protected is shown in Form No. 72.

The area attempted to be protected during the year was 2,218 square miles against 2,221 square miles of last year and the area burnt was 574 square miles against 349 square miles in the previous year.

In *Bellary*, the sandalwood areas in Ramandrug block of the old Sandur range and all the felled coupes and plantations of the old Adōni range were fire-traced as usual. In Bandri reserve there were three large fires which burnt an area of 4,780 acres, in Dharmapuri two fires to the extent of 550 acres and in Ramandrug one fire of 300 acres. In *Anantapur*, fires were very heavy in the Bukkapatnam and Kadiri ranges and as a punitive measure for the failure of the adjoining villages to assist in extinguishing fires, the closure of eight reserves both to grazing and free removal of grass was recommended after the close of the year and since approved by the Board. Protection from fire is reported to be far from successful. In *Guntūr*, no area was under special protection during the year. One large fire occurred in Gangalakunta reserve and burnt an area of 5,060 acres. In *North Cuddapah*, there was increased wilful incendiarism and the villagers concerned were punished with enhancement of grazing fees to four times the ordinary rate and withdrawal of the privilege of free removal of grass. In *South Cuddapah*, the increase in the area burnt was chiefly due to the prolonged severe drought with high winds and thick growth of grass. In *West Cuddapah*, the increase was due to very early commencement of fire season before the fire protection operations were completed and to wilful incendiarism on the part of some of the villages adjoining Palakondas and Seshachellams. In *Nellore*, along the foot of the Udayagiri Veligondas the villagers failed to help in putting out fires and as a punishment Veligonda B block was closed for the free removal of grass. In *Chittoor*, there were extensive fires in Horsleykonda, Tsadukonda, Airala, Vovilthota and Mordana reserves and adequate help was not rendered by the villages, and enhancement of grazing fees for the season of 1917–18 has been recommended and since approved by the Board.

60. The origin of fires is given in Appendix A.

61. *Special protection.*—There was no change in the system of fire-protection during the year except in South and West Vellore where the reward system was greatly extended on the Javadis. The area attempted to be protected was 1,382 square miles against 1,157 square miles in the previous year. *Southern Circle.*

The area burnt during the year was 19·25 square miles against 90·40 square miles in the previous year and the percentage of area successfully protected during the year is 98·61 against 91·37 in the previous year. The cost per square mile of successfully protected area fell from Rs. 16–2–2 to 12–3–10. Last year, however, was exceptional in the matter of fires and the 19·25 square miles is a slight increase on the 18·31 square miles burnt in 1914–15. The percentage of area successfully protected is very much the same.

62. *General protection.*—The percentage of failure fell from 2·96 to 1·23 during the year.

63. The number and origin of fires are given in Appendix A. There were 449 fires burning 34,072 acres against 697 fires burning 117,299 acres in the previous year and 258 burning 20,715 in 1914–15.

64. *Special protection.*—The usual system continued, viz., the clearing of exterior and interior fire lines and patrol by watchers. The area over which protection was attempted was 1,068 square miles against 1,127 in the previous year. The decrease was chiefly in *Kollegal*, *North* and *Central Coimbatore* due to transfers to general protection and to exclusion of areas which did not require systematic protection. The season was exceptionally dry in *South Kanara*. The percentage of successful protection was 98·3 against 89·3 in the previous year and 99·2 in 1914–15. There was a marked improvement in the *Nilgiris*, *North* and *Central Coimbatore* due to the more favourable season. In *North Coimbatore*, the patrolling watchers were paid partly on monthly wages and partly on the reward system. A sum of Rs. 350 was paid after the close of the year as rewards to *Sholagars* for successful fire protection. In *South Coimbatore* the assistance of hill tribes was as in previous years enlisted and they were granted rewards on the results of protection. Rupees 110 were paid to them for the successful protection in the previous season. The cost per square mile successfully protected was Rs. 26–13–10 against Rs. 27–3–10 in the previous year. *Western Circle.*

65. *General protection.*—The area attempted to be protected was 2,556 against 2,498 square miles in the previous year. The percentage of failure fell from 16·1 to 2·4.

The number and origin of fires are given in Appendix A. The total number of fires was 455 against 563 in the previous year and the area burnt decreased by 85 per cent.

(*c*) *Protection from cattle.*

66. Out of 5,094 square miles of forests 1,291 square miles were closed to all animals throughout the year and nine square miles for part of the year as against 1,289 square miles for the whole year and eleven square miles for part of the year during 1915–16. As usual no goat-browsing was allowed in the reserved forests with the exception of a few admitted under rights admitted to the Chenchus at forest settlement in Kurnool East and West. *Northern Circle.*

Seventy-two per cent of the total area of reserved forests was opened to grazing of cattle, but closed against goats. The incidence of grazing in the several districts of the circle are given below :—

Districts.	Number of cattle in cow units.	Area in acres.	Number of acres per cow unit.
		ACS.	ACS.
Ganjām	52,567	347,520	6·60
Vizagapatam	24,400	93,351 *	3·82
Gōdāvari Upper	40,528	277,413	6·84
Do. Lower	49,756	146,878 *	2·95
Kistna	38,017	127,680	3·35
Kurnool East	100,461	438,784	4·36
Do. South	44,844	134,754	3·00
Do. West	120,354	427,520	3·55
Total ..	470,927	1,993,900	4·23

* Accessible area dealt with.

The most intensive grazing goes on in certain reserves of the Sarvasidhi range in *Vizagapatam* where the grazing incidence is one cow for every 1·50 acres and the incidence here must be reduced. The incidence is also too high in the Yerramalais in *Kurnool West.* In both cases the matter is being looked into.

67. Appendix B shows the decrease in the number of cattle impounded compared with the average of the three years preceding; in *Kurnool South* this is said to be due to additional areas having been thrown open to grazing (in view of the fact that the grazing revenue shows a decrease of nearly Rs. 400 the explanation seems "weak"); and in *Gōdāvari Lower* to better understanding on the part of the public of the penalties for illicit grazing.

Central Circle.

68. The area closed and open to grazing is given in Form No. 73 revised in B.P. Forest No. 54, dated 8th May 1917.

The total number of animals grazed amounted to 1,021,881 which is less than the previous year.

The decrease is in *Bellary*, *Guntūr* and *Chittoor*, due to several reserves having been handed over to the management of panchayats.

In *Nellore*, the protection of kanchas on the whole is reported to have been good, although 62 kanchadars were fined a total of Rs. 2,704 for poor protection and transgressions against their agreements. The kancha grazing system is however making good progress in this district.

In five cases owing to persistent transgressions against agreements the kanchas were closed to grazing.

On the other hand 33 medals are to be awarded to selected kanchadars for good protection and rebates from 5 to 10 per cent on the kancha fees have been earned by 136 lessees. In all there were 369 kancha leases with an aggregate area open to grazing of 308,050 acres and 26,940 acres for protection.

Semi-wild cattle.—The acquisition of the enclosures in the Sriharikota reserve designed to get rid of the nuisance of the semi-wild cattle infesting it was in progress, but was ordered to be suspended pending the Forest Commissioner's personal enquiry. The Forest Commissioner visited the locality after the close of the year.

Wild cattle.—In the Ipur reserve in the Nellore taluk there is a herd (estimated at about 150) of wild and quite ownerless cattle. Many of these animals, the District Forest Officer states, are splendid specimens. There is prejudice or superstition in the vicinity against capturing and utilizing them. It is proposed to bring professional cattle catchers from Sriharikota and after capture to remove the captives and sell them elsewhere.

Incidence of grazing.—In *Bellary*, it is reported that steps have been taken to collect information regarding past incidence of grazing and the present condition and possibility of the reserves. Where it is found necessary to reduce the grazing incidence, this will have to be done by judiciously raising the fees. It is also reported that this policy was approved by the Forest Commissioner during his tour in the district in August. In *Anantapur*, it is reported that the incidence of grazing is one cow unit per 1·08 acres against 2·96 of last year. The grazing incidence is somewhat high but nothing can be done towards its reduction until the four sanctioned working-plans are revised and plans prepared for the other two ranges which have none at present and the Collector agrees with the above. In *Guntūr*, owing to the introduction of enhanced grazing fees last year the incidence of grazing has decreased to an appreciable extent, the incidence being during the year 3·48 acres as against 2·86 of 1915–16 and 1·80 acres of 1914–15. In *North Cuddapah*, average incidence of grazing is 6·59 acres per cow unit. In *South Cuddapah*, it is reported that the incidence is 1 cow unit per 7·20 acres and that it requires to be reduced by about half in order that the more easily accessible areas may not be overgrazed. In *West Cuddapah*, incidence of grazing is 5·5 acres per cow unit. In *Chingleput*, the incidence of grazing was one cow unit for 1·3 acres. This is a heavy incidence and steps were taken to introduce the kancha system of grazing into this district. In *Chittoor*, the incidence of grazing is generally heavy and the District Forest Officer reports that steps are being taken to limit the grazing to the actual possibility of the reserves in the new working plans under preparation.

69. An analysis of the cattle impounded is given in Appendix B.

70. Nearly 80·9 per cent of the total area of reserved forests and lands was opened to grazing of cattle but closed against goats. The incidence of grazing in the several districts of the circle is given below :— *Southern Circle.*

District.	Number of cattle in cow unit.	Area in acres.	Number of acres per cow unit.
North Vellore	95,381	272,870	2·86
South do.	86,292	226,436	2·62
West do.	73,824	196,673	2·66
South Arcot	106,761	178,560	1·67
North Salem	115,145	474,880	4·12
South do.	90,605	323,200	3·57
Trichinopoly	51,089	162,560	3·18
Madura	89,183	362,880	4·07
Tinnevelly	29,287	82,560	2·82
Total ..	737,567	2,280,619	3·09

The number of cattle grazed shows a reduction on last year, but there is no appreciable reduction in the incidence of grazing. Steps have however been taken in several districts to formulate grazing schemes which it is hoped will after a time reduce this very heavy incidence. An analysis of the cattle impounded during the year with the average of three years is given in Appendix B.

71. Goats were completely excluded from forests. Eighty-six per cent of the total area of reserved forests and lands was open to other animals for the whole year; thirteen per cent was closed throughout the year and one per cent for part of the year. There was an increase of 16 square miles in the area closed for the whole year in *Central Coimbatore* which is ascribed to the incorrect figures furnished in the last year's report. *Western Circle.*

Incidence of grazing.—The incidence of grazing does not exceed the possibility in *Mangalore South* and *North Malabar*. The forests of *South Malabar* are closed to grazing. In *Mangalore North*, the incidence in 24 out of 44 reserves is reported to be double what it ought to be and it is proposed to reduce over-grazing by a gradual increase of grazing fees. In the *Nilgiris* it is not possible to gauge precisely the incidence of grazing on account of numerous shola forests which contain no grazing and the steep ghat slopes which are not grazed on. In *Central* and *South Coimbatore* this question is being enquired into in accordance with the principles for introducing the forest village system. As the latter is extended in accordance with the Board's latest orders, the problem will be dealt with under the grazing provisions of the scheme.

Introduction of the forest village system.—There is no need to introduce the system in *Malabar* where the question of grazing is insignificant and in the *Nilgiris* which has its own peculiar conditions. Schemes for the forests of Mettupalayam range, Tadagam and Anaikattai blocks in *Central Coimbatore* and for the forests of Udumalpet range in *South Coimbatore* have been sanctioned during the year but too late for introduction in the current year.

The number of cattle impounded was 7,784 against 9,978 in the previous year and 9,033, the average for three years ending 1916–17. Compared with the figures of the previous year, there was a marked decrease in *Kollegal* due, it is said, to larger number of cattle being licensed ; in *North Coimbatore* to a general decrease of illicit grazing and in *South Coimbatore* to better supervision. There was some increase in *Central Coimbatore.*

(*d*) *Protection against injuries from natural causes.*

72. *Ganjām.*—Sal leaves were attacked by the larvæ of *Ingura subapicalis*—family *noctuidæ* and two other species not yet identified, the effect of the attacks which ceases with the advent of the rains appears to be transitory. A borer *Hoplocarambyx spiniformis* a beetle attacked wood of standing over mature trees, the removal of which would doubtless be the cure. Several wild elephants in the Chendragiri reserve and in the neighbourhood of Pippalaponka damaged young sal and alarmed the forest employees but no one would wish to extirpate them. Sambhur and cheetal (spotted deer) seemed to have appreciated the young sal *Northern Circle.*

coppice in a sample area. Creepers were cut systematically and considerable improvement has been effected. *Vizagapatam.*—Coppice shoots were found to be eaten by sambhur which also did damage to the young trees by pealing off the bark. The larva of a longicorn beetle damaged a rubber tree by boring from the root to the branches through the stem and the tree was cut and removed root and branch. Men and porcupine scoop out and eat the tender shoot of bamboos and some sago palm were killed by hillmen by overtapping them for toddy. *Godavari Upper.*—Jassids did trifling damage to the leaves of the teak. *Kurnool West.*—Loranthus in the *Hardwickia binata* forests of the Yerramalais is a serious and increasing pest and lopping of branches affords only temporary relief.

Central Circle.

73. Under orders of Government in No. 987, Revenue, dated 3rd April 1917, Mr. Whitehead was deputed to Coorg to report on Mr. Tireman's scheme for the eradication of lantana and his notes were approved in Board's Proceedings, Forest No. 89, dated 17th August 1917.

In *Guntūr*, the standing growth in Nayanapalli casuarina plantations was attacked by insects due to unhealthy growth of trees owing to poor soil. In *North Cuddapah*, Anogeissus latifolia in the Nallamalais was attacked in June by caterpillars which defoliated the trees, but with the rains in July the insects disappeared and the damage minimised. The tender coppice-shoots of red-sanders were also in some cases attacked by a defoliating caterpillar about the same time.

Prickly-pear was removed from the coupes in some cases.

In *South Cuddapah*, in Rajampet and Kodur ranges the first flush of tender leaves of red-sanders and *Anogeissus latifolia* trees were found to have been eaten by caterpillars. Early rains brought the pest down to the ground. It was noticed that crows fed largely on these caterpillars. This is worth investigating and will be investigated into specially for the reason that Anogeissus is coming to the fore front as a species yielding tannin from its leaves. In *West Cuddapah*, creepers and soft-wood species in the worked coupes were removed. In *Nellore*, in some areas *Loranthus longiflorus* and *Loranthus bractealus* are exceedingly common, but the plants affected are usually the less desirable ones and the better species are either not parasitised at all or but lightly. In *Chittoor*, cutting and removal of creepers affecting standards were done.

Southern Circle.

74. *Prickly-pear.*—No real attempt has as yet been made to get rid of this pest. In North Vellore, a sum of Rs. 545 was spent in clearing 34 acres of the Palar plantations, whilst in Madura 344 acres were cleared in 16 fuel coupes at a cost of Rs. 680. In the Chitteris of South Salem the eradication has been entrusted to the Malayalis.

These are small beginnings and it is hoped that from them more determined attempts will be made to get rid of this pest.

Spike.—This subject will be treated in detail under research work. The spiked area is undoubtedly increasing in the North Salem and Trichinopoly districts and the disease is not stayed by the uprootal of diseased trees. This fell disease has now been found in the south-west corner of the Javadis where 65 trees on an area of 10 acres are showing distinct spike.

Lantana.—In Tinnevelly, lantana was uprooted over an area of 87 acres in Kuttalam reserve and 30 acres in Padarmalai working circle at a cost of Rs. 355 and Rs. 45 respectively.

Cyclone.—The South Arcot district was the centre of the very violent cyclone of the 22nd November and the reserves suffered considerably by the uprootal of trees. Far greater damage was however sustained in the sandalwood forests of South and West Vellore where sandal and other trees were uprooted by the thousand.

Pyrausta machaeralis.—A curious attack of this teak defoliator was observed in the Banavaram reserve of North Arcot in November 1916 and described by the Conservator in his inspection note on that district.

Western Circle.

75. *Spike disease in sandal.*—The attempts made in *Kollegal* to restrict spike by isolating affected areas is reported to have failed. But the project never had a fair trial and in spite of the most detailed and strict instructions how the work was to be carried out, nothing was done for over a year and a half, after which the report was

received that spike had crossed the isolation lines and had infected practically the whole working circle. The disease has continued to spread in *North Coimbatore* to such a degree that the usual outturn of sandal from the removal of diseased trees is expected to be trebled during the current year.

Lantana.—Lantana is being eradicated in the areas under working-plans in *North Malabar* and in *North*, *Central* and *South Coimbatore* and good progress has been made.

Prickly-pear.—As with lantana eradication is proceeding under regular clearing schemes in coupes under working-plans. A good deal of clearing was done in *Central Coimbatore*, but the work was not expeditiously and continuously performed. These areas have lately been inspected by the Conservator and it was found that a good deal of the burning was incompletely carried out and that pear had started again from the unburnt portions of clumps. These mistakes will be rectified. A scheme of clearing has been introduced in the *Kollegal* sandal working circles.

Teak defoliators.—*Hyblœa* were noticed in all the plantations of the Nilambur range and generally in the Amarampālam range. The damage, however, was small. Heavy rains in October and November checked the attacks.

4. Sylviculture.

(*a*) *Natural reproduction.*

76. Owing to early and timely rains natural reproduction of all the important species in almost all the districts was good. In *Ganjām* sal seeded well, its natural reproduction appeared promising and cera rubber has spread itself naturally in the localities introduced. Coppice reproduction has everywhere been satisfactory and so has the crop of seedlings—as a result of the last two seasons there are now an enormous number of thriving young plants of valuable species. Bamboos (the species not being reported in *Vizagapatam*, *Dendrocalamus strictus* in *Gōdāvari Lower*) flowered in the hill reserves of these districts. In a portion of the area over which bamboos were weeded out in *Kurnool East* a dense growth of *Dalbergia latifolia* seedlings had come up. In *Kurnool South Hardwickia binata* has not flowered or seeded since 1914. In the Yerramalais of *Kurnool West* natural reproduction of *Hardwickia* in the stone walled areas was good and it is stated that in the Gundlabrahmeswaram Working Circle in areas saved from fire for a number of years grass diminished appreciably in height and density and this factor materially aided natural reproduction. *Northern Circle.*

77. In *Bellary*, in Kudligi range a large number of seedlings of *Hardwickia binata* is coming up in Sivapuram and its extension reserves, and the seedlings of *Diospyros melanoxylon* and *Dolichandrone crispa* in Kakupi and Keriaganahalli reserves. The natural reproduction of *Hardwickia binata*, *Acacia Sundra* and sandalwood in the leased forests is fair. In the closed areas of Sogi and Jittinakatta reserves the *Hardwickia binata*, *Dolichandrone crispa* and *Soymida febrifuga* reproduction is satisfactory. In the Jittinakatta reserve, along the nallas which feed Nichavanahalli and other tanks, sandalwood is doing well. Sissoo is growing well in the Moka plantation. In *Anantapur*, the sandalwood which has established itself in the Penukonda, Gundumala, Amagondapaliem, Yerracherla and Kadiri reserves is confined to some favourable localities and natural regeneration is observed in Penukonda, Gundumala and Amagondapaliem reserves. Coppice reproduction in the felled coupes of Illur and Pamidi reserves is good. In *Guntūr*, the reproduction of mada (*Avicennia officinalis*), Thilla (*Excœcaria Agallocha*), Kalingi (*Sonneratia apetala*) by seed in felled coupes and the land adjoining creeks is fair in Bapatla range. In the upland ranges natural reproduction of Yepi (*Hardwickia binata*), billudu (*Chloroxylon swietenia*), etc., is successful in felled coupes and in places not open to grazing especially in parts of Bollapalli main reserve and extensions 1, 7 and 8, Kakirala block II extension 6 of Vinukonda range, part of Mutukur, Gangalakunta and Kandlakunta reserves in Palnad range and part of Venkatayapalem in Sattenapalli range. The regeneration from coppice in babul areas is also satisfactory. In *North Cuddapah*, coppice reproduction in the felled coupes has been satisfactory especially that of *Pterocarpus santalinus* and *Anogeissus latifolia.* The natural regeneration from seed suffered and was mostly burnt by the huge fires of 1917. In *South* *Central Circle.*

Cuddapah, reproduction of the important species by seed was as usual hampered by drought, fire and cattle. "Thamba", *Shorea tumbuggaia* in the plateau of the Seshachellams seeded profusely. Germination of the seeds was excellent. In the worked coupes, reproduction by self sown seed is fair. Regeneration from coppice shoots in the felled areas is excellent specially in the case of red-sanders. In the Kodur and Upparapalli plantations, the reproduction of sandalwood by seed is good. In *West Cuddapah*, in all the fuel and improvement coupes, the reproduction by coppice was good. The natural reproduction of Elama, Neruddi, Red-Sanders and Satin wood is good. In *Nellore*, *Chloroxylon swietenia*, *Pterocarpus santalinus*, *Albizzia odoratissima* seeded well, and seedlings sprang up especially in the Velingondas, but the seedlings succumbed for the most part during the hot weather. In the Marlapudi reserve *Hardwickia binata* springs up profusely from seed, but the intensive grazing prevents practically any survival and there are very few poles to be seen. Reproduction by coppice shoots was satisfactory. In *Chingleput*, coppice reproduction in the felled coupes was satisfactory throughout. In *Chittoor*, natural reproduction of sandalwood is remarkably good in the sandalwood block in Nellipatla reserved forest. It is also good in the various sandal topes of Palmaner range; slowly but surely it is spreading in almost all the ranges of the district. Reproduction of red-sanders in Chittoor reserve was satisfactory. Coppice growth of *Pterocarpus santalinus* and *Marsupium*, *Hardwickia binata*, *Chloroxylon swietenia* and *Anogeissus latifolia* in Mamandur forests is very good. Reproduction by coppice has been good in all felled coupes closed against grazing.

Southern Circle.

78. *Sandal.*—The natural reproduction of sandal is reported to be good from all the principal sandalwood areas in South and West Vellore, North and South Salem and Trichinopoly.

In the Javadis, it is reported that the creeper cutting and general tending operations are having an excellent effect on regeneration.

A similar effect has been noticed on the Chitteris of South Salem where there has been a general flowering of the Strobilanthus.

Outside the regularly recognised sandal area there is no doubt of the spread of sandal in the Mordana reserve of North Vellore, and in Unjalnachi and Ulkombai forests of the Sirumalai Hills of Madura.

In Tinnevelly, the Conservator was able to satisfy himself of the spread of this tree in Mundanthorai and Kuttalam but more especially in the Alagarkoil valley of Srivilliputtur range where there are now over 80 trees to the acre. This valley also shows instances of successful coppicing which is a comparatively rare phenomenon in this species.

This was a bad seeding year for *Hardwickia binata* in North Salem and *Hopea parviflora* in Tinnevelly.

The *Gluta travancorica* seeded very well in 1917 in Tinnevelly.

The seedling reproduction of *Pterocarpus marsupium*, *Dalbergia latifolia* and *Anogeissus latifolia* is reported to have been good in several districts.

Coppice reproduction on the whole was good.

The *Bambusa arundinacea* at Kuttalam flowered early in the year and the flowering is now extending to the Ambasamudram range.

Western Circle.

79. *North Mangalore* reports the extension of bamboo seeding to the ghats; and that it was a magnificent year for *Hopea*—the principal tree of the district. It was also a good season for sandal. *South Mangalore* sends similar reports as regards bamboo and *Hopea*. Teak reproduction from seed is said to have been very unfavourable in *North Malabar*. Sporadic seeding of bamboo continues in the valleys of *South Malabar*. Sandal regeneration was good in parts of *Kollegal* and the seeding of bamboo is spreading there also. The Conservator noticed good germination of *Pterocarpus Marsupium* in the Talamalai region in *North Coimbatore* which seems to be stimulated by a bad fire season. Teak is said to have done well in *South Coimbatore*.

(*b*) *Artificial reproduction.*

80. Form 75 shows the areas under plantations or cultural operations. *Northern Circle.*

Regular plantation—Kurnool East.—Small nurseries were maintained at Maddipenta and Peddachama to replace casualties and 4,610 teak seedlings were transplanted in the rains and the bamboo and other shoots which were suppressing the plants were cleared. *Kurnool West.*—The teak plantations at Nagaluti, Bairluti, Pasurutla, Rudracode, Sudem, Pangidi and Honkaram and the sandal plantation at Pecheruvu were maintained. The area newly planted was only 45 acres, further extension being hardly practicable owing to difficulty in watering. Investigations made during the year showed that the cost of plantations in the past has been as much as Rs. 400 per acre in at any rate one locality—an absolutely prohibitive figure. The mulberry plantation at Bairluti is in a flourishing condition and silk breeding is now in progress. Sandal seeds were dibbled under host plants in 20 acres in a more favourable locality at Pecheruvu and germinated fairly well: but many of the seedlings were browsed over by deer and cattle owing to inadequate fencing.

Cultural operations.—In *Ganjām* nothing new was done. *Vizagapatam.*—Sandal sowings in the Chinnamangalapuram tope were attended with partial success and the attempt to introduce sal and red sanders in the above tope and sal in the felled areas of Ichapuram, Avalanghi and Russellpeta coupes proved a failure. *Kistna.*—Sandal plants in the Kondapalli reserve are doing well. Babul seeds sown broadcast in the Nachugunta block IX germinated after floods; further sowing of babul was given up in Yellichitladibba extension I as the growth was unsatisfactory and Lumnitzera seeds were sown in 200 acres of Upputeru reserve (the result is not reported). *Kurnool West.*—In coupe II of the Gundlabrahmeswaram Working Circle teak seeds were dibbled in and most of them germinated. The areas here are not clean felled, so not much result need be expected.

81. Form No. 75 shows the area under artificial reproduction. *Central Circle.*

Regular plantations.—No new plantations were undertaken but 1,324 acres were sold in *Guntūr* and *Nellore* districts and the remaining area maintained during the year. In *Bellary* in Moka plantations the height of the older trees ranges from 20 to 30 feet and the height of casuarina plantation ranges from 16 to 34 feet.

Cultural operations.—In *Bellary*, sandalwood seeds were dibbled in Adōni East reserve and 40 seedlings are in healthy condition. Seeds of Hardwickia binata were dibbled in the failed mounds during the last season and they are in a healthy state. The saplings in the areas cultivated by ryots in Badanahal and Halharvi reserves are in good condition. In *Anantapur*, the sandal sowings in Kalyandrug South reserve, Kondapalle and Settur reserves have been a complete failure. Operations for the spread of sandal was carried out on a small scale in Kutagulla, Amagondapaliem and Dokkalakonda reserves. In *Guntūr*, 500 cashew nuts were sown in Vedullapalli reserve, 500 in Bapatla block I and 300 in Nayanapalli. Two thousand palmyra seeds were sown in Vedullapalli reserve and 3,000 in Ipurpalem. The seeds were all collected and sown by the forest subordinates. The germination of the seeds in almost all the areas was good and a good percentage of the seedlings is in a promising condition. In *South Cuddapah*, about 475 red-sander seedlings were transplanted in the Kodur red-sanders plantation from a nursery bed. About 200 of these died during the hot weather and have since been replaced with fresh seedlings. In *Nellore*, seeds and seedlings of Anogeissus latifolia were put out in small areas in Kanigiri. It is too early to pronounce on the result. In *Chingleput*, sandal seed sown in Kambakkam plateau was a failure and the experiment is being tried again. In *Chittoor*, red-sanders seeds were sown in Chittoor reserve but the seedlings withered away for want of sufficient moisture in the soil.

82. *Regular plantations.*—The only districts in which there are regular plantations are North Vellore, Madura and Tinnevelly. *North Vellore.*—Five acres were added to the Amerdi plantation being planted with teak, rosewood, red sanders and sissoo at a cost of Rs. 294. Coupe 1 of Banavaram working-circle and coupes 1 and 2 of Chenur working-circle were dibbled in with seeds of red sanders and *Hardwickia binata.* There are signs of germination. The blanks in coupe 4 of Virinjipuram, 14 of Tiruvallam and 13 of Kilminnal and in Pichanur tope were replanted. *Southern Circle.*

Madura.—No addition was made to the plantations. The planting out of young trees obtained from the sholas and dibbling of seed in sholas proved a failure.

Tinnevelly.—Only 5 out of 32 acres cleared for teak plantation at Kodamadi were planted. The seed supplied from South Coimbatore (Poonachi) was very poor and the monsoon was unfavourable. In Valliyur 200 bamboo cuttings were put out but only 87 survive. In Kuttalam range 1,335 seedlings were planted in coupe VI (*c*) of which rather less than half are alive.

The reclamation of the Teri reserve continued but the area sown has not been reported.

Taungya—South Arcot.—An area of 2 acres in Pakkam Hills was sown with 12 Madras measures of teak seeds under this system. Some germination has taken place. *Tinnevelly.*—Casualties in the Kani plantation area were replaced by planting about 9,000 seedlings. These Taungyas have not been added to as the Kanis have gone to the Kattalamalai estate.

Cultural operations—South and West Vellore.—Cultural operations as prescribed in the working-plan were carried out in the South and West Vellore divisions. Many of the seedlings which were looking healthy and strong died back during the hot weather. Unfortunately the operations carried out in May and June 1917 were restricted as most of the seed was blown off the trees by the cyclone. In some cases germination was observed six weeks after sowing.

South Salem.—One hundred acres in coupe I of compartments I and II of the Chitteri Sandalwood working-circle were fenced and sandal seeds were dibbled at a cost of Rs. 191. The District Forest Officer found germination excellent. Sandal seeds were also dibbled under bushes in the Harur reserve under the direct supervision of the District Forest Officer.

Trichinopoly.—Seventeen acres in Ariyur shola block were sown with sandalwood seeds and the area fenced. The result is being watched. Seeds of various species were sown in felled coupes but without much success.

Tinnevelly.—Hopea seeds were dibbled in lines at Kannikatti but only few seedlings were alive ; but seeds sown in two nurseries did much better. Two hundred measures were dibbled between the old Hopea lines at Kannikatti and another two hundred in the adjoining area from which Lantana is being uprooted.

Western Circle.

83. *Regular plantations.*—Of the 27 acres clear felled in 1915–16 for planting in Mundakadava (*South Malabar*), only 4 acres were planted up, 6′ × 6′, at a cost of Rs. 178. A further area of 17 acres was felled this year and an area of 41 acres made ready for planting. About 22 acres of this was dibbled at stake with seed and the balance was planted with seedlings from a nursery. Airavillikava (44) 27 acres was clear felled and made ready for planting. Pitting and planting was partly completed at a cost of Rs. 737. In the *Nilgiris*, the 137 acres of experimental hardwooded *Eucalypti* were maintained and blanks in compartment 5, block III Snowdon (fuel), were filled up by pitting and planting.

Taungyas—South Mangalore.—Seven thousand two hundred teak, 1,000 *Hopea* and 600 jack were planted in new taungyas, but the result was not satisfactory. In *North Malabar* out of 76 acres opened last year, 42 acres is reported as successful. Fifteen acres in Tholpatti were newly opened. In the *Nilgiris*, 13 acres were opened and dibbled with teak.

Cultural operations.—Broadcast sowing of *Hopea* in Coondapoor (*Mangalore North*) was successful, but the area is not mentioned. Fifty acres in Hosebetta reserve was dibbled with sandal seed obtained from Coimbatore but had not time to germinate before the report was despatched. There is a great opening under favourable natural conditions for the propagation of sandal in this district. There was some activity in *Mangalore South* in the dibbling of *Hopea*. Over 30 acres in the Kadambilla, Parappa and Jalsur reserves were put down in seed, but the results are not reported. Group planting of teak continued in the Begur and Chedleth reserves (*North Malabar*). Sixteen thousand pits in the former and 10,000 in the latter were planted up, with fair success all round. In *South Malabar* Rs. 322 was spent in underplanting the teak plantations with miscellaneous species. Over 1,000 rosewood seedlings were also under-planted. Some sandal dibbling was done in *North Coimbatore* with partial

success in coupe VII, Ennamangalam. In *South Coimbatore*, 5·50 acres was dibbled with teak at Topslip and Mount Stuart. The regeneration plots of 1916 at Ulandi and Mount Stuart were inspected by the Conservator and are a great success.

(c) Operations for improvement of the growing stock.

84. Creepers were cut in all the districts of the circle. Thorny shrubs in *Kistna* and prickly-pear in *Kistna* and *Kurnool East* were removed. In *Vizagapatam* and *Kurnool South* overmature trees were cut out to make room for the young growing stock and to increase regeneration. In *Kurnool South* bamboos were thinned out for improving bamboos themselves or introducing better timber species and 12 small coupes in certain areas open to grazing were thinned, it is said, to improve the grazing though the item is again quoted under ' exploitation.' *Northern Circle.*

85. *Timber improvement fellings.*—In *North Cuddapah*, 2,305 acres; *South Cuddapah*, 1,878 acres; *West Cuddapah*, 1,195 acres; and in *Chittoor*, 546 acres were felled over in accordance with the working plans. *Coppice felling* was carried out in all the districts for supply of firewood. *Fencing.*—All felled coupes were fenced by contractors. *Cutting of creepers and climbers* was carried out in the three divisions of *Cuddapah* and in *Chittoor*. *Stone-walling* was done in the three divisions of *Cuddapah* and in *Chittoor*. *Bunding of streams.*—In *Bellary*, old bunds were repaired by subordinates. *Central Circle.*

86. The cutting of creepers affecting standards and other useful trees was carried out by subordinates in most districts and felled coupes were fenced. In South Arcot, crooked and hollow Dalbergia Latifolia saplings and trees were coppiced and fenced. Tending operations were undertaken in coupe 1 of compartments I and II of Chitteri Sandalwood working-circle of South Salem at a cost of Rs. 257. *Southern Circle.*

87. Light improvement fellings in favour of *Hopea* were carried out in *Mangalore North* over 724 acres and again over 3,613 acres for the same purpose in *Mangalore South*. Rupees 3,383 was spent in thinnings in the teak plantations, Nilambur, according to programme. Creeper cutting and weeding were also carried out. In the *Nilgiris*, 872 acres, compartment 3 Mudumalai was subjected to improvement fellings and unsound, dead, etc., trees removed in compartment 5 (825 acres). Thinnings in the Mutinad and Newman plantations were converted into charcoal. The sandal coupes of the year in *North Coimbatore* were cleared of interfering growth. Rupees 530 was spent in *South Coimbatore* in cleaning, weeding and opening up the canopy in favour of teak and rosewood at Mount Stuart and Punachi. *Western Circle.*

5. Exploitation.

(a) System of management.

88. The total area for which regular working plans were sanctioned was 2,535 square miles and the area dealt with under different sylvicultural systems are detailed below :— *Northern Circle.*

Sylvicultural system.	Area in square miles.	Percentage.
(1) Clear felling	124·00	4·89
(2) Selection felling	199·00	7·85
(3) Simple coppice felling	106·00	4·18
(4) Coppice with standard felling	256·00	10·10
(5) Improvement felling (mostly selection)	518·00	20·43
(6) Unworked areas	1,332·00	52·55
Total ...	2,535·00	100·00

(i) Major Forest Produce.

(1) Clear or Regeneration fellings.

89. In *Ganjām* two plots of one acre each were clear felled as an experiment to gauge the regeneration of sal thereon and in *Kurnool West*, the areas planted in the Nallamalai teak plantations were clear felled.

(2) *Selection fellings.*

90. *Ganjām.*—Twenty sāl trees over 7½ feet in girth were extracted departmentally from Rambha reserve under the provisions of the working-plan. The demand for the timber under the indent system decreased as the indent rate was raised from 6 to 12 annas per cubic foot. *Kurnool East.*—In portions of Gudem, Markapur, Cumbum and Dornal ranges dead, dying, unsound misshapen and overmature trees were selected and felled by Chenchus and 100 palmyra trees in Chinaganapalli reserve and 50 in Badvid reserve were sold standing. In *Kurnool South* 216 palmyra trees in Owk Palmyra extension and Mundlapad reserves were selected and sold standing. *Kurnool West.*—Selection fellings combined with improvement fellings were carried out in the Gundlabrahmeswaram working circle and dead and fallen trees from the hill forests of Pecheruvu range were removed under the selection system.

(3) *Regular thinnings.*

91. Thinnings were made in compartments VIII and IX of Kandikuppa plantation in *Gōdāvari Lower* and bamboos in blocks leased to contractors were felled under this system.

(4) *Improvement fellings.*

92. In *Ganjām* 980 dead sāl trees were sold standing to contractors and 300 were worked departmentally. In *Vizagapatam* the wind-fallen sāl timber from Donabai and Somaralli reserves in Palakonda range was brought down to Jamparakota and Veeraghattam depots. In *Gōdāvari Lower* besides cleaning 38 acres of compartment XIII of Kandikuppa plantation and the collection of deadwood in compartments VIII to XIII, deadwood and bamboos were leased to contractors with a view to improving the growing stock. In *Kurnool East* a contractor was permitted to fell dead trees and those tamarind trees which are past the age of bearing fruit in the Utla fuel coupe, dead and dying trees in Guttabodia reserve were converted into fuel by the Chenchus of Chintalamudipi Gudem. In *Kurnool South* overmature and deteriorating trees were marked and removed from two coupes; twelve coupes for small timber and fuel were thinned out. In *Kurnool West* the timber coupes in the Nallamalai Terai working circles and a coupe in the Yerramalai were treated under this system.

(5) *Coppice with standards.*

93. Two fuel coupes in *Ganjām*, twelve in *Vizagapatam*, five in *Gōdāvari Lower*, five in *Kistna* and three in *Kurnool West* were felled under this system.

(6) *Simple coppice.*

94. Nine fuel coupes in *Ganjām*, ten in *Gōdāvari Lower*, five in *Kistna* and one block of 500 acres in the Coringa extension reserved land were leased.

(7) *Unregulated fellings.*

95. Permits were issued for removals from unreserves of classified timber in *Ganjām* and of timber, fuel and bamboos in *Vizagapatam*. In *Gōdāvari Lower* unregulated fellings were confined to Rampa and certain unreserves and the Mangrove fuel from Hope Island which forms part of the Coringa extension reserved land was as usual removed on permits issued by the Marine Department. In *Kurnool West* permits were granted only for the removal of palmyra trees.

Central Circle. 96. The total area under working plans was 1,006 square miles and the areas treated under different sylvicultural systems are shown below :—

Sylvicultural system.	Square miles.	Percentage of total area under each sylvicultural system.
(1) Method of clear felling by compartment	11	1·09
(2) Simple coppice	...	...
(3) Coppice with standards	324	32·21
(4) Method of improvement fellings	287	28·53
(5) Area closed to felling or worked under no definite sylvicultural system	384	38·17
Total ...	1,006	100

97. The total area of forests under working plans was 2,903 square miles. The various sylvicultural systems in force over this are shown in the following table :— *Southern Circle.*

Sylvicultural system.	Area in square miles.	Per cent.
Clear fellings	56	1·93
Simple coppice	181	6·23
Selection fellings	251	8·65
Improvement fellings	527	18·15
Coppice with standards	1,149	39·58
Pastoral methods	36	1·24
Forests for which working plans have been prepared but not subjected to any definite working	703	24·22
Total ...	2,903	100·00

(1) *Clear or regeneration fellings and* (2) *Simple coppice.*

98. The growth in 56 square miles of reserves was clear felled in South Arcot and in 7 square miles in Trichinopoly. Ten fuel coupes in each of the districts of South Vellore and South Salem were worked under simple coppice. In Madura, the simple coppice system was adopted only from 1st April 1917 as per prescriptions of the revised working plan in Sholavandan, Ayyalur and Natham ranges.

(3) *Selection fellings.*

99. The area shown under this head relates chiefly to bamboos. Selected sandalwood trees dead and dying on the Namakkal Pachamalais and on the Kollimalais of Trichinopoly were enumerated and felled under this system.

(4) & (5) *Improvement and coppice fellings.*

100. *Improvement fellings.*—In the early part of the year fifteen sandalwood coupes in South and West Vellore were worked under this system.

The same system was applied to the Hosur forests of North Salem and the Chitteri forests of South Salem.

The Pālār river side plantations were also worked under a system of improvement fellings.

Coppice under standard system.—The following coupes were worked under coppice with standards :—

23 fuel coupes of 1,830 acres in North Vellore,
23 fuel coupes of 1,443 acres in South Vellore,
6 fuel coupes of 699 acres in West Vellore,
41 fuel coupes of 3,040 acres in South Arcot,
6 fuel coupes of 687 acres in North Salem,
6 fuel coupes of 904 acres in South Salem,
25 fuel coupes of 1,987 acres in Trichinopoly,
4 fuel coupes of 200 acres in Madura, and
14 ghat forest coupes, 5 plain coupes and 13 tank-bed coupes in Tinnevelly.

(6) *Unregulated fellings.*

101. Unregulated fellings under the permit system were confined to unreserves under the management of the Revenue Department.

102. *Mr. A. W. Lushington's scheme* of working the evergreen forests on a large scale for the supply of timber for the rebuilding of Belgium and France was considered as applicable to the Kodamady forests of Tinnevelly.

Enumerations of sample plots made in the evergreen showed respectively

(1) Fifty-five tons per acre of timber.
(2) One hundred and three tons per acre of timber.
(3) Two hundred and fifteen tons per acre of timber.

As all the branchwood would be of great value in this division either in the form of fuel or of charcoal briquettes, a careful study of these forests will have to be made.

Western Circle.

103. The total area of reserved forests covered by working plans is 1,846 square miles. The various sylvicultural systems in force over this area are shown below:—

Sylvicultural system.	Area in square miles.	Percentage of total area under each sylvicultural system.
Method of clear fellings by compartments	16	0·87
Selection method	323	17·49
Simple coppice	12	0·65
Coppice with standards	191	10·34
Method of improvement fellings	126	6·83
Unregulated fellings	9	0·49
Forests for which working plans have been prepared but not subjected to any definite system of working ...	1,169	63·33
Total ...	1,846	100·00

(1) *Clear or regeneration fellings.*

104. *South Malabar.*—17·32 acres of mixed forests in New Amarampalam reserve and the Airavillikava teak plantations 1,844·27 acres were clear felled.

(2) *Selection fellings.*

105. *Mangalore North.*—Twenty acres in coupe II of Madibare timber working circle were felled. *Mangalore South.*—Four hundred and ninety-one trees which yielded 13,100 cubic feet of timber were felled in Kadambilla coupe IX. The extraction of overmature timber in coupe I of Jalsur East continued. *Malabar North.*—Four hundred and fifteen acres in coupe II of Chedleth and 449 acres in coupes XIX and XX of Begur were felled. *Kollegal.*—Spiked sandal trees were extracted from Araipalayam, four coupes of Bailur and three of Madeswaranmalai working circles; the total outturn was about 94 tons. *North Coimbatore.*—Two coupes covering 5,792 acres from which 5,126 'spiked' sandal trees which yielded 55 tons were removed. *South Coimbatore.*—The fellings in coupes IX and X of Punachi working circle were completed.

(3) *Simple coppice.*

106. Forty-five acres of eucalyptus and acacia plantations in *The Nilgiris* and two coupes covering 154 acres in *North Coimbatore.*

(4) *Coppice with standards.*

107. Six hundred and seventy-eight acres in *Mangalore North* and forty-seven acres in Nerankimale coupe III, portions of two coupes in Kasaragod range, and a sample plot of six acres in Kalanjimale reserve in *Mangalore South* were coppiced. Portions of two coupes in *Kollegal*, eight coupes (682 acres) in *North Coimbatore*, twenty-three coupes (1,814 acres) in *Central Coimbatore* and seven coupes covering 392 acres in *South Coimbatore* were felled for fuel. Five coupes for supply of small timber, drag poles and agricultural implements were also felled in *North Coimbatore.*

(5) *Improvement fellings.*

108. *Mangalore North.*—Two hundred and sixteen acres in Pilarkan and Jarvattukadavu reserved forests were felled for fuel. *Mangalore South.*—2,849 cubic feet of timber in Parappa reserve. *South Malabar.*—The teak plantations were thinned and the yield was 66,058 trees and saplings. Sample plots and subdivision lines were felled in connexion with the preparation of final working plan. *The Nilgiris.*—825 acres in compartment 5 of block I of Mudumalai working circle were worked over; the yield was 19,834 cubic feet of teak and 4,273 cubic feet of other species. Cutting of ill-grown trees and girdling of inferior species were carried out over an area of 873 acres in compartment 3. Six acres in compartment 2 of Mutinad, about two acres in compartment 1 of Newman and seven acres in Benne plantations were thinned; the outturn from the first two plantations was used for the manufacture of charcoal.

(6) *Unregulated fellings.*

109. *Mangalore North.*—Firewood required for working 115 cinnamon oil stills and for manufacturing catechu was removed from unreserved lands. *South Malabar*—miscellaneous trees which yielded 545 cubic feet were felled from the site of the nursery for the new teak plantations. The *Nilgiris*—Sandalwood trees which yielded about five tons were extracted from unreserved lands in Segur range. Dead trees in the sholas were converted into fuel and supplied to the adjoining estate owners. Small timber and firewood required by the public were as usual removed on permits. The Badagas obtained their annual consumption of firewood on consolidated permits at one rupee per household. *North Coimbatore*—68,093 cubic feet of timber and 26,979 cubic feet of fuel were removed on permits from unreserved lands. Besides the above mentioned items, forest produce in accordance with the privileges under the rules under section 26 of the Forest Act was removed from the unreserved lands in all the districts.

(ii) MINOR FOREST PRODUCE.

(1) *Bamboos.*

110. Throughout the circle bamboo coupes in reserved forests were sold to contractors, but in *Gōdāvari Upper* on a two-year contract; in *Kurnool East* the Chenchus of Gudem, Markapur and Dornal ranges were also engaged in the collection of bamboos and bamboo splits from areas not leased out. *Northern Circle.*

(2) *Miscellaneous produce.*

111. Seigniorage was collected on gravel, earth, and other minerals and manure leaves, and the usufruct of mango, tamarind and other fruit trees auctioned everywhere; the right to collect *cassia* barks of the two kinds (*Fistula* and *Auriculata*) were also leased out except in *Gōdāvari Upper* and in part of *Kurnool East* where the removal was carried out by Chenchu agency. In *Ganjām* the Khonds were allowed to remove free from reserves minor produce such as tamarind and other fruits, honey, wax, etc., in return for service rendered in fire and general protection. In *Vizagapatam* thatching grass was leased out to contractors. In *Kistna* a quarry in a reserve was leased to Local Fund Department and a "napa" flag stone quarry in another reserve was leased out. In *Kurnool East* unsuccessful attempts were made to see if there was demand for the bark of *Ventilago madraspatana* and *Morinda citrifolia.* In *Kurnool West* minor forest produce in the Nallamalais was collected by the department through the agency of the Chenchus and auctioned and in the Yerramalais minor forest produce was sold reservewar. Seigniorage fees were collected in *Vizagapatam* from the purchasers of minor produce from hill men and in *Gōdāvari Lower* permits were as usual issued for all minor produce from Rampa as well as *Yellavaram* and *Polavaram* agencies.

(3) *Extraction of fodder.*

112. The right to cut and remove thatch and fodder grass from Coringa and Kandikuppa reserves in *Gōdāvari Lower* and the collection of fodder grass from the closed areas and leaves from Mangrove forests in *Kistna* were leased out as usual. The right to cut and remove fodder grass on the Cantonment ground at Samalkota was leased out by the Revenue Department and the rental credited to Forest Department. Free removal of grass in head loads were allowed in *Kurnool East* and *West* except to the defaulting people of two villages who refused to render assistance in putting out fires and in *Kurnool South* some grass was removed in cart loads on payment in the Sirvel range.

(4) *Hay-making.*

113. No operations were undertaken except in *Kurnool South* where the grass was collected, dried and stored for feeding Government bulls in the hot weather.

(5) *Grazing.*

114. The permit system was in force in all the divisions. The revenue derived was Rs. 1,22,397 against Rs. 1,19,005 in the previous year. The increase occurs chiefly in *Ganjām*, *Kurnool East* and *Kurnool West*, but partly counterbalanced by decrease in *Vizagapatam*, *Gōdāvari Upper*, *Kistna* and *Kurnool South*. The increase in *Kurnool East* is believed to be due partly to the raising of penta permits from four

annas to one rupee per quarter; in *Kurnool West* to more efficient protection. The decrease in *Vizagapatam*, *Gōdāvari Upper* and *Kistna* is accounted for by cattle mortality and by less number of foreign cattle having resorted to the forests and in *Kistna* by the disafforestation of three reserves. The less collection in *Kurnool South* was due to the collection of fees in Giddalore range not having been done at the proper time.

(1) *Miscellaneous produce.*

Central Circle.

115. The right to collect minor produce was leased out to contractors as usual in all the districts except in the Sriharikota range of *Nellore district* where for local reasons the produce continued to be collected and sold departmentally. The increase in the price of manure leaf to Rs. 2 per cart-load in *West Cuddapah* had no doubt a deterrent effect on the demand. During the year under report, in addition to usual Tangedu (Cassia auriculata) sales, the Rela (Cassia Fistula) bark was sold in all districts.

Permits continued to be issued for stone, earth and road materials.

(2) *Extraction of fodder.*

116. The lease by Military Grass Farm Department continued in *Bellary*, *Anantapur* and *West Cuddapah* at Rs. 2 per ton of made-hay. The grass in babul areas alone was leased out in *Guntūr district*. In *Bellary*, Mr. Howes cut and removed 860 tons. In *Nellore*, the lessees of kanchas who undertook the protection of adjoining areas closed to grazing were given the privilege of removing fodder grass therefrom. It is not reported to what extent this privilege was availed of.

(3) *Free removal of grass.*

117. In *Bellary*, free removal was not allowed except for domestic purposes in the Adōni range and it was allowed only on permit. In *Anantapur*, *North*, *South and West Cuddapah divisions of Cuddapah district and Chittoor* free removal was allowed as usual except from the area under cultural operations.

In *Anantapur district* the free removal was prohibited in one reserve of Bukkapatnam range and all the reserves of Tadpatri range as the villagers failed to assist in putting out fires. In *North Cuddapah*, some of the villagers adjoining Lankamalais and Nallamalais were punished, in addition to enhancement of grazing fees, with suspensions of the right of free removal of grass. In *Guntūr*, the concession allowed last year was continued this year also and the system is reported to have worked well. In *Nellore*, free removal was permitted in Veligondas and Yerrakonda Hill Forests and the concession is reported to be much appreciated. The concession had to be withdrawn in one case for refusal to assist in fire protection.

(4) *Hay-making.*

118. There was no departmental operation.

(5) *Grazing.*

119. The revenue realized during the year was Rs. 3,12,331 against Rs. 3,18,777 in the previous year. Though there was a decrease in the total revenue, there was increase in *Anantapur*, the three *Cuddapah* divisions, *Nellore* and *Chingleput*; but this was counterbalanced by decrease in the other districts, viz., *Bellary*, *Guntūr* and *Chittoor*. The increase in *Anantapur* is reported to be due to better patrolling by the subordinates, in *Cuddapah* divisions to enhanced grazing fees on Nellore cattle and to enhancement of grazing fees in certain reserves, in *Nellore* to further extension of the kancha system throughout the district except in a part of the Sriharikota range. The decrease in *Bellary* was due to handing over V class reserves to panchayats, in *Guntur*, to exclusion of goats from all reserves and sheep from certain reserves and in *Chittoor*, to closure of a reserve to grazing and to the collection of grazing revenue in June of last year which had been taken to last year's statistics. In *South Cuddapah*, a grazing scheme for the Seshachellams was submitted to Board and the Board in its No. 1493, Routine, dated 8th December 1916, recorded it. In *Nellore*, in order to popularize the kancha system and make its advantages better understood a Deputy Collector was again placed on special duty for three months. A long and interesting report on the system prepared by the special officer M.R.Ry. A. Ramanuja Achariyar has been received and will in due course be forwarded to the Board.

(1) *Miscellaneous produce.*

120. Minor forest produce was as a rule worked out. The issue of permits for leaves for manure, which has ruined so many of the forests of this circle, is being restricted in North, South and West Vellore and has been stopped in the class II forests of South Arcot and Trichinopoly. *Southern Circle.*

(2) *Collection of tan stuffs.*

121. In *Tinnevelly*, a departmental collection of avaram bark was made of 9,800 lb. which was sold at Rs. 34 per 500 lb. Unfortunately the collection price has not been reported.

In *North Arcot*, 130 quarters of Divi Divi pods were collected from the river-side plantations but were not sold owing to want of demand.

In *Madura*, after the close of the year samples of 'Dhwva sumac' (powdered Anogeissus latifolia leaves) were collected on the Kodaikānal ghat. These were pronounced by Mr. Pilgrim to be of very high tannin value and rough tests made at Trichinopoly showed that they contained more than double the quantity of tannin found in *Cassia auriculata* or in *Cassia fistula*, the two tan stuffs most in demand.

Similar collections are being made in South Vellore.

Cassia fistula was leased for the first time for several years in all the districts of this circle.

(3) *Extraction of fodder.*

122. Free removal of grass was allowed in North, South and West Vellore and South Arcot. In North Salem, the grass in 21 closed coupes and one specially protected block was leased for Rs. 166. In South Salem and Trichinopoly, free removal or sale of grass was not permitted. In Madura, the removal of Hariali grass from the Bryant Park reserve in Kodaikānal range was allowed as usual on permits. In Tinnevelly, grass was included in the minor forest produce lease.

(4) *Hay-making.*

123. In North Vellore, the Banavaram, Kylasagiri and Panamadangi reserves and the Palar river-side plantations were leased out during the year on payment of a royalty of Rs. 2 per ton of hay removed and Rs. 741 realized during the year as against Rs. 774 in the previous year.

(5) *Grazing.*

124. The revenue derived from grazing was Rs. 1,68,563 against Rs. 1,69,467 in the previous year.

(1) *Bamboos.*

125. Bamboos were extracted departmentally in the *Mangalore* divisions and *South Malabar* for rafting and floating timber. Four coupes covering 2,921 acres in *Mangalore North*, three coupes (area not reported) in *Mangalore South*, ten coupes (21,328 acres) in *North Coimbatore*, eighteen coupes of 2,969 acres in *Central Coimbatore*, five coupes of 3,109 acres and four blocks (area not furnished) in *South Coimbatore* were leased out. Removals on permits were allowed in *North Malabar*, the *Nilgiris*, *Kollegal* and *South Coimbatore* to meet local demands, from the natural forests in *South Malabar* for floating timber by purchasers and from the unreserved lands in *Mangalore North*. *Western Circle.*

(2) *Miscellaneous produce.*

126. Minor products of importance were leased out except in the Kanoth, Mudumalai and Tunacadavu ranges where they were collected departmentally. In *Mangalore North* the manufacture of catechu and in *Central Coimbatore* the collection of deer horns were also left to departmental agency. Owing to the scarcity of barks both *Cassia auriculata* and *Cassia fistula*, this circle was scarcely affected by the war demand.

(3) *Extraction of fodder grass.*

127. The removal of fodder grass on payment was permitted in the Beypore tope in *South Malabar*, in the *Nilgiris*, parts of *Central Coimbatore* and in the other divisions of *Coimbatore*. The grass in the Erode range in *Central Coimbatore* was leased out. The free removal of thatching grass in *Mangalore* divisions and by the Todas on the

plateau in the *Nilgiris* was continued. The concession of free removal of grass from the forests of *North Coimbatore* was allowed on the condition of being charged fees after the occurrence of fires and was not permitted in the other divisions of *Coimbatore* where there was no necessity; it was not required in *Malabar* where the demand was met from outside reserved forests.

(4) *Hay-making.*

128.—Nil.

(5) *Grazing.*

129. Grazing was as usual controlled by issue of permits except in *South Malabar* where the forests are closed to grazing and in the areas handed over to the management of panchayats. The grazing fees in *North Coimbatore* were doubled as a punitive measure for incendiarism. The revenue derived from grazing and fodder grass was Rs. 1,00,575 as against Rs. 79,320 in the previous year.

(*b*) *Agency of exploitation.*

(i) DEPARTMENTAL AGENCY.

Northern Circle.

130. Form No. 76 in thousands and No. 77 in units show separately the different classes of produce collected and Form No. 78 the stock disposed of and the balance remaining.

The following abstract shows the forest produce removed departmentally and compares the outturn in 1915-16 and 1916-17 and the percentage of the total outturn brought out by this agency:—

Description.	1915-16.	1916-17.	Value.		Percentage extracted by Government 1916-17.
			1915-16.	1916-17.	
	C.FT.	C.FT.	RS.	RS.	
Timber	271,447	124,696	82,271	55,326	10·6
Fuel	648,750	260,466	..	..	
	NO.	NO.			
Bamboos	259,837	154,564	4,533	2,659	4·99
	MDS.	MDS.			
Minor produce	38,199	27,362	8,314	5,340	1·08

The principal factor which stands in the way of handing over practically all extraction to contractors appears to be the need in the Kurnool division of providing work for the Chenchus. The decrease in timber occurred chiefly in *Ganjām, Gōdāvari Upper* and *Lower* and in *Kurnool West* due to the introduction of the contract system; there was a slight increase in *Kurnool East* due to the employment of Chenchus on timber collection and in *Kurnool South* due to a reversion to departmental work as contractors could not be found. The decrease in fuel occurred in all the districts except in *Gōdāvari Upper* and *Lower* where the increases were slight and is attributed to the transfer of work to contractors. The decrease in bamboos was also due to the same cause.

Minor produce collected was 27,362 maunds against 38,199 maunds in the previous year. The decrease in minor forest produce was in *Kistna* due to the disafforestation of Kanukollu reserve from which Divi Divi pods used to be collected departmentally in the past and in *Kurnool East* due to the failure of the crop of soapnuts and in *Kurnool South* due to the minor forest produce having been leased to contractors.

(ii) PURCHASERS.

131. There has been increase in the removal of major and minor produce on the whole in the Circle. The increase in *Gōdāvari Lower* is chiefly accounted for by the classification by contractors of good quality of fuel into timber and in *Kistna* by the larger number of assignments of lands under darkhast and by the sale of more coupes. The increase in fuel was chiefly due in *Gōdāvari Lower* to removals for munition purposes, in *Kistna* to the sale of three reserves and in *Kurnool South* to the sale of more fuel coupes. The increase under bamboos is trifling and under minor produce due to the removal of the bark of *Cassia fistula* and an increased demand for that of *Cassia auriculata.*

(iii) and (iv) Right and privilege-holders and free grantees.

132. The following statement shows the estimated quantity and value of produce removed under the above heads :—

Agency.	Timber.		Fuel.		Bamboos.	Minor produce.	Grazing.	Total.
	Cubic feet.	Value.	Cubic feet.	Value.	Value.	Value.	Value.	Value.
		RS.		RS.	RS.	RS.	RS.	RS.
Right and privilege holders ..	58,528	4,308	582,203	5,868	439	23,571	2,419	36,605
Free grantees	76,737	11,328	2,748	86	1,765	649	3,785	17,613

(i) Departmental Agency.

133. No departmental operations were undertaken. Four hundred casuarina poles *Central* were supplied to Engineer Stores Officer, Bombay, from Guntūr. The decrease under *Circle.* timber is due to less extraction for departmental buildings in *South Cuddapah* (old East Cuddapah) than in previous year. The increase under *fuel* and *bamboos* was due to larger quantity collected for burning bricks and tiles for departmental buildings in Cuddapah divisions and to rectification of fuel coupes leased by contractors after expiry of contract in *Chittoor*. The increase in minor produce is due to better season and greater energy by Range Officer, Sriharikota, Nellore district.

(ii) By purchasers.

134. *Timber.*—The decrease is due to fewer darkhast applications and to more fuel extracted from improvement coupes than timber in *West Cuddapah*.

Fuel.—The increase is due to increase in the number of fuel coupes and the sale of more fuel in unreserved lands in *Bellary* and the greater quantity of fuel exploited from coupes leased out in *West Cuddapah* and sale of good many withered and wind-falls in *Chingleput*.

Bamboos.—The increase is due to removal of greater number of bamboos by the contractors.

Minor produce including grazing.—The increase is due to sale of Rela (Cassia Fistula) bark during the year and to better prices obtained for Tangedu leases in general. The bark of Cassia Fistula had not been sold in this circle for the past several years.

(iii) Rights and Privileges.

135. The details for free removal of grass appear in paragraph 26 supra. In *North Cuddapah*, 286 cows at one anna were permitted to graze by the villagers of Chennupalli and Gopavarampalli. In *South Cuddapah*, 678 cows and bulls of the ryots of Settigunta and its hamlets were allowed according to the settlement of Settigunta reserve. In *West Cuddapah*, permits were issued for 609 cows at As. 1-6 and 155 sheep at 9 pies for grazing in Palakondas.

(iv) Free grants.

136. The statement below gives the details of free grants made during the year, chiefly for rebuilding houses destroyed by fire and floods. In *Nellore*, grants were made for building huts in criminal settlement.

—	Timber.		Fuel.		Bamboos.		Grass and grazing.	Other minor produce.	Total value.
	Cubic feet.	Value.	Cubic feet.	Value.	Number.	Value.	Value.	Value.	
		RS.				RS.	RS.	RS.	RS.
Right-holders ..	42	5	..	..	..	..	127	..	132
Free-grantees ..	58,968	7,213	..	..	5,080	77	174	567	8,031
Total ..	59,010 or 59,000	7,218	..	..	5,080	77	301	567	8,163

(i) Departmental Agency.

Southern Circle. 137. The work done by departmental agency is chiefly confined to the extraction of sandalwood and represents only 1·1 per cent of the total outturn.

(ii) By Purchasers.

138. There has been increase in the removal of timber, fuel and bamboos and decrease in that of minor forest produce.

Timber. + 30,000 c. ft. due to increase in the collection of the value from lands assigned on darkhast in North Salem and Trichinopoly and to the large outturn from trees blown by cyclone of November 1916 in North Vellore.

Fuel. + 531,000 c. ft. due to sale of a large number of trees blown down by cyclone especially in unreserves of North, South and West Vellore divisions. In South Arcot the increase was from coupe sales and the sale of entire growth in reserves and from darkhast tree valuations from unreserved lands. In Tinnevelly, the increase was due to better demand for firewood.

Bamboos + *Rs.* 10,276.—The increase is due to a matter of adjustment of lease amounts and not to any real increase in the outturn of bamboos.

Grazing and minor produce,—Rs. 565.—The decrease is small and calls for no remarks.

(iii) Rights and Privileges.

139. The usual privilege allowed to the Malaiyalis for grazing at reduced rates was continued in North Vellore. In the Javadis of South and West Vellore, a complete village system has been established in which in return for free grazing and fire rewards the Malaiyalis are protecting the particular portion of forests assigned to them for grazing. This system worked very satisfactorily during the year. A similar system has been in vogue in the Chitteris of South Salem for some years and continues to be worked with success.

(iv) Free Grants.

140. The estimated value of free grants was Rs. 19,383 against Rs. 8,608 in the previous year. The increase was chiefly in South Arcot due to the unusually large applications for rebuilding houses and huts damaged and destroyed by the cyclone. The total value of the grant in South Arcot under timber was Rs. 13,280 as against Rs. 802 in the previous year.

The quantity and estimated value of produce removed by right-holders and free grantees are shown in the following abstract :—

—	Timber.		Fuel.		Bamboos.	Grass and grazing.	Other minor forest produce.	Total.
	1,000 c. ft.	Value.	1,000 c. ft.	Value.	Value.	Value.	Value.	Value.
		RS.		RS.	RS.	RS.	RS.	RS.
Right-holders	..	..	..	..	..	..	1,051	1,051
Free-grantees	38	15,409	4	170	480	3,311	13	19,383
Grants at reduced rates ..	..	..	..	..	..	109	..	109
Total ..	38	15,409	4	170	480	3,420	1,064	20,543

Western Circle 141. *Major produce.*—Nineteen per cent of the total outturn was extracted by this agency. The important works carried out were—*Mangalore North.*—Felling of one timber and one fuel coupes for want of offers, and improvement fellings. *Mangalore South.*—Selection fellings in Kadambilla coupe IX, improvement fellings in Parappa compartment I and Nerankimale coupe III and the felling of a sample plot in Kalanjimale reserved forest. *North Malabar.*—The selection fellings referred to in paragraph 105 supra which yielded 124, 927 cubic feet oftimber. *South Malabar.*—Thinnings in teak plantations and rafting and floating logs and saplings to sale depot. *The Nilgiris.*—Extraction of sandalwood in Segur and felling and carting of fuel in Coonoor and Ootacamund ranges. Sandal fellings in *Kollegal* and *North Coimbatore.*—*Central Coimbatore.*—Felling of trees along the South Indian Railway line at Walayar and the rectification of contractors' faults in some of the fuel coupes. *South Coimbatore* :—Selection fellings in coupes IX and X of Punachi working-circle and the transport of timber from the Tekadi leased forests to depots.

Minor produce.—The particulars are mentioned in paragraphs 125 and 126 supra.

142. *Disposal of produce at the edge of the forests.*—Fuel felled in Pilarkan and Jarvattukadavu reserves in *Mangalore North* was sold at the edge of the forests. *Mangalore South.*—Eight hundred and ninety-one cubic feet of timber was sold in roadside depots at the edge of coupe IX of Kadambilla. Fuel from Muliar and Nerankimale forests were sold at coupe sides. *South Malabar.*—Teak saplings derived from thinnings in Edacode, Airavillikava, Arevakode and Chatamborai plantations were sold at river-side depots and at stump sites. In *North Coimbatore* small timber and agricultural implements were retailed in forest depots.

(ii) BY PURCHASERS.

143. *Major produce.*—Five thousand six hundred and fifty-two cubic feet of standing timber in compartment 1 of Jalsur East in *Mangalore South*, 19,660 cubic feet in sub-coupes A and B of coupe II of Chedleth and in Kanoth forest in *North Malabar* and 990 cubic feet in reserved forests in *The Nilgiris* were felled by contractors. Fifteen fuelcoupes in *Mangalore North*, one coupe in *Mangalore South* and all the fuel coupes in the *Coimbatores* were sold standing.

Minor produce.—The extraction of bamboos and the collection of miscellaneous produce referred to in paragraphs 125 and 126 supra.

(iii) AND (iv) BY RIGHT-HOLDERS AND UNDER PRIVILEGES AND FREE-GRANTS.

144. The quantity and estimated value of produce removed by right-holders and free-grantees are given in the following statement:—

——	Timber.		Fuel.		Bamboos.		Grass and grazing.	Other minor produce.	Total.
	Cubic feet.	Value	Cubic feet.	Value.	Number.	Value.	Value.	Value.	Value.
		RS.		RS.		RS.	RS.	RS.	RS.
Right-holders	23,355	17,896	..	..	..	..	..	..	17,896
Free-grantees	3,892	1,446	66	4	4,292	36	1,014	130	2,630
Total ..	27,247	19,342	66	4	4,292	36	1,014	130	20,526

The value of timber enjoyed by right-holders increased from Rs. 6,180 to Rs. 17,896. The increase was in *Mangalore* divisions due to larger removals of reserved trees from kumaki lands and to the lowering of the minimum girth of trees to be exploited from such lands from six to four feet and in *South Malabar* to the grant of timber to the Uralan of Trikkaliyur devaswom for repairs to a temple in accordance with the terms of the lease for leased forests. The estimated value of produce removed by free-grantees increased from Rs. 1,789 to Rs. 2,630. The grants made were chiefly for construction of and repairs to temples, rebuilding houses destroyed by fire and repairs to Toda munds in *The Nilgiris*. The Badagas in *The Nilgiris* continued to remove fuel for their requirements on payment of Re. 1 per annum per house. As mentioned in the last year's report the actual value of firewood collected by them and the damage caused to the forests were considerable. One temple elephant in *North Malabar* and the buffaloes of Todas in *The Nilgiris* were allowed free grazing in reserved forests, the estimated value of which was Rs. 1,014.

145. *Outturn and sources of Forest produce.* *Northern Circle.*

Agency.	Timber in cubic feet including sandalwood.		Fuel in cubic feet.		Bamboos in value.		Minor produce (including grass and grazing) gross value in rupees.	
	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.
					RS.	RS.		
Government	271,447	124,696	648,750	260,466	4,533	2,659	8,314	5,340
Purchasers (including confiscation).	906,369	913,922	4,074,398	4,365,001	1,41,664	1,45,301	2,74,819	2,75,990
Right-holders	167,198	58,528	582,195	582,203	407	439	23,869	25,990
Free grantees	47,520	76,737	3,462	2,748	278	1,765	119	4,434
Total ..	1,392,534	1,173,883	5,308,805	5,210,418	1,46,882	1,50,164	3,07,121	3,11,754

The variations have been explained above except in the case of "free grantees." Under these items the increase has been due to serious floods in the *Kistna* and *Kurnool* districts in October and November 1916. The rates for grazing fees levied in the several divisions are shown in Form No. 74. The number of animals licensed to graze on permits was 588,324 against 575,620 in the previous year.

Central Circle.

146. The total outturn of produce collected by different agencies is compared with the previous year in the statement below :—

Agency of exploitation.	Timber in cubic feet in thousands including sandalwood.		Fuel in thousands of cubic feet.		Bamboos in number.		Minor produce (including grass and grazing) gross value in rupees.	
	1915-16.	1916-17.	1915-16	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.
By Government Agency	20	11	24	56	1,773	5,469	8,487	12,575
By purchasers (including confiscation).	931	827	6,389	6,860	2,578,071	3,376,598	7,63,001	9,61,640
By right-holders ..	..	..	..	..	..	..	138	127
By free grantees ..	47	59	..	..	15,288	5,080	313	741
Total ..	998	897	6,413	6,916	2,595,132	3,387,147	7,71,939	9,75,083

The variations have already been explained. The rates of grazing fees levied in several districts are given in Form No. 74. The number of animals licensed to grazing on payment was 1,021,881 against 1,214,480 of last year.

Southern Circle.

147. The total outturn is given in the following statement :—

Agency of exploitation.	Timber including sandalwood in thousands of cubic feet.		Fuel in thousands of cubic feet.		Bamboos value in Rs.		Minor produce including grass and grazing value in Rs	
	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.
					RS.	RS.		
By Government agency ..	17	25	70	38	289	640	533	1,402
By purchasers	798	828	4,239	4,770	1,10,692	1,20,968	3,76,879	3,76,314
By right-holders	..	..	..	..	..	..	1,115	1,051
By free grantees	19	38	3	4	454	480	5,819	3,324
Total ..	834	891	4,312	4,812	1,11,435	1,22,088	3 84,346	3,82,091

The variations have already been explained. The rates for grazing fees levied in the several districts are shown in Form No. 74. The number of animals licensee on payment was 908,842 against 1,059,589 in the previous year.

Western Circle.

148. The subjoined table compares the outturn of produce through all the agencies with that of the previous year—

Agency of exploitation.	Timber including sandalwood in thousands of cubic feet.		Fuel in thousands of cubic feet.		Bamboos in value.		Minor produce including grass and grazing in rupee	
	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.
					RS.	RS.		
By Government agency.	309	383	621	661	5,772	4,896	20,518	13,451
By purchasers ..	379	928	3,219	3,480	35,841	41,275	1,37,3	1,58,057
By right-holders ..	15	23	..	..	..	..	..	..
By free-grantees ..	4	4	1	..	88	36	915	1,144
Total ..	707	1,338	3,841	4,141	41,701	46,207	1,58,801	1,72,652

By departmental agency—Major produce—Timber.—The increase was chiefly in *South Malabar* due to clear felling of 27 acres in Airavillikava plantations and the felling of sample plots and subdivision lines in connection with the preparation of final working plan for the teak plantations.

Fuel.—The increase was due chiefly to exploitation of larger areas in *Mangalore* divisions and to the supply of fuel to the Pactolus Gold Dredging Syndicate in *South Malabar*. *Minor produce—Bamboos.*—The decrease of Rs. 876 calls for no special remarks. *Other produce.*—The total outturn decreased by 50 per cent. The decrease was due to a fall in the demand for bluegum leaves in the *Nilgiris* by the Railway authorities and to the extension of the lease system.

By purchasers—Major produce.—The increase was chiefly due to extensive sales of tree growth on darkhast lands especially in *Mangalore North*. *Minor produce—Bamboos.*—The increase was mainly in *Central* and *South Coimbatore* and was due to larger areas leased out during the year. *Grazing.*—The revenue realized was Rs. 1,90,575 against Rs. 79,320 in the previous year and the increase is explained in paragraph 40 infra. The number of cattle licensed to grazing on payment was 385,912 against 362,917 in the previous year. *Other produce.*—The value of produce collected was Rs. 57,482 against Rs. 58,048 in the previous year. The difference is small. *By right-holders.*—The increase in the quantity of timber removed was due to causes given in paragraph 144 supra. *By free-grantees.*—The variations are not important.

CHAPTER III—FINANCIAL RESULTS

149. The financial results compared with those of last year and the average of the five preceding years show a net increase of Rs. 95,965 and Rs. 1,78,565 respectively :— *Northern Circle.*

Items.	1916-17.	1915-16.	Average of preceding five years.
	RS.	RS.	RS.
Revenue	8,44,712	7,44,905	7,81,580
Expenditure—			
" A. Conservancy and Works " inclusive of " Refunds " ..	2,76,651	2,90,501	4,06,556
" B. Establishments "	3,99,333	3,81,641	3,84,861
Total expenditure ..	6,75,984	6,72,142	7,91,417
Net results ..	+ 1,68,728	+ 72,763	— 9,837

The gross receipts exceeded those of the previous year and the average by Rs. 99,807 and Rs. 63,132, respectively.

The expenditure under A. " Conservancy and works " including " Refunds " is less than that of the previous year and the average by Rs. 13,850 and Rs. 1,29,905, respectively. This is chiefly due to the fact that contract working has been introduced where practicable and to the curtailment of expenditure on capital works on account of financial stringency.

About 34 per cent of the expenditure was devoted to the upkeep and improvement of the forests and 66 per cent to exploitation, etc.

The outstanding revenue at the commencement of the year was Rs. 1,05,082 and the value of the sales amounted to Rs. 9,81,318. Out of the total of Rs. 10,86,400, Rs. 8,44,711 were collected, leaving an outstanding balance of Rs. 2,41,689.

RECEIPTS.

(i) *By departmental agency.*

Timber. —Rs. 16,298 due to the transfer to contractors of the removal of timber from certain unreserves in *Ganjām* and to departmental sale of timber in the unreserves in *Gōdāvari Upper* not having been held for want of bidders.

Fuel. —Rs. 9,207 due to less departmental operations in *Vizagapatam*, *Kurnool South* and *West* than in the previous year.

Bamboos. —Rs. 2,031 due to leasing out of bamboo coupes in *Vizagapatam* to contractors.

Minor produce. + Rs. 591. The increase is small and calls for no remarks.

(ii) *By purchasers.*

Timber. — Rs. 21,414 due to lack of demand for unreserve sal timber in *Ganjām* at the revised indent system rate, to less revenue in *Vizagapatam* from tree-growth on darkhast lands than was anticipated and to departmental working in the Chelama range, *Kurnool South*, for lack of proper bids.

Fuel. + Rs. 1,28,064 due to special demand for tent pegs in *Gōdāvari Lower* for munition purposes and to sale of the Kanukollu, Allinagaram and Malleswaram reserves in *Kistna.*

Bamboos. + Rs. 8,650 due to leasing out of more coupes in *Vizagapatam* than in the previous year, and to better prices for coupes in *Kistna, Kurnool South* and *West.*

Grazing and fodder grass. + Rs. 3,397 due to better supervision in *Ganjām* and *Kurnool East* and to increased provision made for grazing in the Giddalore and Owk ranges, *Kurnool South.*

Other produce. + Rs. 9,099 due to collection of a portion of the Rela bark lease amount in *Vizagapatam* during the year and to non-distribution of tree-owner's fees to other departments in *Gōdāvari Lower* and *Kistna.*

(iii) *Miscellaneous (including confiscated drift and waif-wood.)*

Revenue. — Rs. 1,044. These are fluctuating items.

EXPENDITURE.

A. Conservancy and Works.

The total expenditure was less than that of the previous year by Rs. 37,326 due to the introduction of contract system on a larger scale and to economy effected in expenditure on capital works on account of war.

B. Establishment.

The increase of Rs. 17,692 was chiefly due to the posting of an Assistant Conservator to *Ganjām* to debiting the pay and travelling allowance of the Special Forest Officer of the *Golgonda* and *Hill Madgole* to this Circle, to an Imperial Officer having been in charge of the *Gōdāvari Upper* Division during the whole year, and to the entertainment of special establishment in *Gōdāvari Lower* in connection with Rampa.

Central Circle.

150. The following abstract compares the financial position of the year under report with that of the previous year and the average of the preceding quinquennium :—

—	1916-17.	1915-16.	Average of preceding five years.
	RS.	RS.	RS.
Revenue	14,36,286	11,80,976	11,28,924
Expenditure.			
A.—Conservancy and works including refunds.	2,16,874	1,95,479	3,16,699
B.—Establishments	3,91,803	3,81,218	3,76,754
Total of A and B ..	6,08,677	5,76,697	6,93,453
Net results ..	+ 8,27,609	+ 6,04,279	+ 4,35,471

The net results show a surplus of Rs. 8,27,609 against one of Rs. 6,04,279 in the previous year and Rs. 4,35,471, the quinquennial average. The figure is the highest on record ever obtained for the Central Circle, but it must not be taken as indicative of a sound forest administration, for in the Conservator's opinion such a high net revenue can be justified only as a war measure under the existing circumstances. The department may literally be said to be starved of trained establishment, and with regard to expenditure on other items the orders of Government laid down in Memorandum No. 7437-1, Financial (Confidential), dated 26th October 1915, have been very strictly and closely carried out.

[library stamp]

The revenue increased by Rs. 2,55,310 and the expenditure by Rs. 31,980. Of the receipts 18 per cent were realized from major produce, 22 per cent from grass and grazing, 44 per cent from minor produce and 16 per cent from miscellaneous items.

If the real progress in the forest administration of each district is to be only gauged by the revenue derived, the figures in most cases will, as the Collector of Guntūr has rightly pointed out in his endorsement when forwarding the annual report of his district, be altogether illusory. Guntūr shows a gross revenue of Rs. 2,82,445 against an expenditure under "A. Conservancy and Works" of Rs. 15,391 and under "B. Establishment" of Rs. 35,055, yet Guntūr district is undoubtedly the most backward district of this circle so far as really sound forest administration is concerned. Similarly, the backward districts of Bellary and Anantapur give the enormous revenues of Rs. 1,86,863 and Rs. 3,48,265, respectively, against expenditures under A and B as noted below :—

	A. Conservancy and Works.	B. Establishment.
	RS.	RS.
Bellary	23,064	46,762
Anantapur	17,277	34,513

Comparing with the above the figures obtained in the South Cuddapah Forest division, which is at the present moment by far the most advanced district of the circle in the matter of real forest administration and which together with the other two Cuddapah divisions undoubtedly contain the most valuable forests of the circle, it is found that the revenue realized during the year was Rs. 95,432, against an expenditure of Rs. 34,793, and Rs. 50,778 under "A. Conservancy and Works" and "B. Establishment," respectively, but it is also to be observed that a much larger proportion of the revenue realized in this district is derived from major produce than is the case with Anantapur, Bellary and Guntūr, and this fact should and does indicate in the present case that the forests therein have commenced to be developed and more intensively worked on scientific sylvicultural lines. Of the expenditure in the whole circle about 41 per cent was devoted to the upkeep and improvement of the forests and 59 per cent to exploitation, etc. The outstanding revenue at the close of the year was Rs. 5,41,992, of which Rs. 8,151 fell due within the year. The estimated value of timber and other produce at sale depots at the close of the year was Rs. 3,745 against Rs. 1,049 at the commencement of the year. The important variations between the actuals of the year and those of the previous year are explained below :—

RECEIPTS.

(i) *By departmental agency.*

	RS.
Timber	— 278
Fuel	+ 3,414
Bamboos	— 10
Sandalwood	— 114
Minor forest produce	+ 4,091

The variations under all heads except minor forest produce are small. Under minor forest produce the increase was due to larger collection of soapnut and nux vomica and to better prices realized for them in *Nellore*.

(ii) *By purchasers.*

	RS.
Timber	+ 2,741
Fuel	— 25,682
Bamboos	+ 6,065
Grazing	— 6,446
Minor forest produce	+ 1,93,383

Timber + *Rs.* 2,741.—This is a variable head depending as it does chiefly on the revenue derived from the sale of trees on darkhast lands.

Fuel — *Rs.* 25,682.—Due to the smaller number of coupes sold owing to want of demand and also to low prices offered for the coupes on account of shortage of railway wagons in *Guntūr* and *Nellore*.

Bamboos + *Rs.* 6,065.—Due to better prices obtained for bamboo blocks in *South Cuddapah* and *Chittoor*.

Grazing — *Rs.* 6,446.—Due to less amount realized by handing over reserves to panchayats and to closure of reserves to goat browsing in *Bellary* and to the exclusion of goats from all reserves and sheep from certain reserves in *Guntūr*, and to the collection in June last a portion of this year's grazing fees in *Chittoor*.

Minor forest produce + *Rs.* 1,93,383.—Due to sales in all districts of rela bark not sold in the previous five years and to better prices realized for tangedu leases in all the districts.

(iii) *Miscellaneous* (*including confiscated drift and waif wood*).

+ *Rs.* 78,156.—The sale of forest lands with tree growth in *Guntūr* and *Chingleput* contributed to the increase.

EXPENDITURE.

A. Conservancy and Works.

+ *Rs.* 18,300.—The increase in expenditure is due to payment of large sum of Rs. 11,081 as compensation to Putlampalli shrotriyamdar in *West Cuddapah* and to survey operations carried on by Survey of India Party in *Nellore.*

B. Establishment.

+ *Rs.* 10,585.—Due to the posting of an Extra Deputy Conservator of Forests to the charge of *Anantapur* which was held last year by an Extra Assistant Conservator of Forests, to the increments paid under the time scale of pay, to the posting of an Assistant Conservator to the circle, to the disbursement of leave allowances to an Extra Assistant Conservator of Forests attached to Southern Circle and to charges incurred on account of the creation of the appointment of Temporary Assistant to the Forest Commissioner.

Southern Circle.

151. The following abstract compares the financial position of the year under report with that of the previous year and the average of the preceding quinquennium :—

——	1916–17.	1915–16.	Average of the preceding five years.
	RS.	RS.	RS.
Revenue	14,06,096	10,40,794	12,75,454
Expenditure—			
A. Conservancy and Works (including refunds).	2,39,252	2,09,604	2,87,937
B. Establishment	4,00,517	3,70,506	3,69,010
Total expenditure ..	6,39,769	5,80,110	6,56,947
Surplus ..	7,66,327	4,60,684	6,18,507

The gross receipts of the year exceeded those of the previous year by Rs. 3,65,302 and the expenditure by Rs. 59,659. The net results show a surplus of Rs. 7,66,327. This large surplus, though useful at the present time, can hardly be regarded with satisfaction. Work is steadily increasing whilst establishment is being kept to its lowest point with the result that the necessary works of improvement cannot be carried out. Of the receipts 58·2 per cent was from major produce, 35·9 per cent from minor produce and 5·9 per cent from miscellaneous sources. 5·8 per cent of the expenditure was spent on exploitation, 41·3 per cent on the upkeep and improvement of the forests and 52·9 per cent on miscellanous items. The proportion of net to gross revenue increased from 44 per cent to 54·5 per cent. The outstanding revenue at the close of the year was Rs. 4,17,683, of which Rs. 27,512 fell due within the year. The estimated value of timber and other produce at the sale depots at the close of the year was Rs. 1,69,461 against Rs. 52,114 at the commencement of the year.

Receipts.

The important variations between the actuals of the year under report and those of the previous year are explained below :—

(i) *By departmental agency.*

Sandalwood + *Rs.* 2,39,934.—Due to the increased quantity collected and exceptional prices obtained.

(ii) *By purchasers.*

Timber — *Rs.* 2,626.—This is a fluctuating item.

Fuel + *Rs.* 1,25,400.—Due to the sale of trees blown down by cyclone in the three divisions of North Arcot district, to the sale of growth in class IV and VI forests of South Arcot and Trichinopoly and to the good sales of coupes in Tinnevelly.

Bamboos — *Rs.* 17,064.—Due to the instalments having been collected in advance during the previous year in South Vellore and South Salem. In South Salem, the rotation of bamboo blocks in five working circles was increased from three to four years, in consequence of which only three-fourths of the areas were leased for the triennium commencing from 1st April 1916.

Grazing — *Rs.* 904.—Does not call for any remarks.

Minor produce + *Rs.* 25,609.—Due to better prices realized and to the collection of three-fourths of the total amount during the year in North Salem on account of two year's leases.

(iii) *Miscellaneous (including confiscated drift and waif wood).*

— *Rs.* 5,440.—Due to a smaller number of cases detected or compounded during the year chiefly in South Arcot and Madura.

Expenditure.

A. Conservancy and Works.

There was an increase of Rs. 35,508 under A. Conservancy and Works over that of the previous year. There was an increase under A-I (*d*) and A-VII (*a*). The increase under A-I (*d*) corresponds to the remarkable increase of revenue under the head of Revenue I (*d*). The increase under A-VII (*a*) was due to the Forest Engineer's expenditure on roads having been met from Forest funds.

B. Establishment.

The expenditure increased from Rs. 3,70,506 to Rs. 4,00,517 due chiefly to the debiting of the Forest Engineer's salary to Forest funds, the employment of an Extra Assistant Conservator on special duty throughout the year and to the increased establishment for sandalwood operations.

152. The following abstract compares the financial position of the year with that of the previous year and the average of the preceding quinquennium :—

—	1916–17.	1915–16.	Average of the previous quinquennium.
	RS.	RS.	RS.
Revenue	10,91,922	9,71,800	8,84,516
Expenditure—			
Refunds	2,837	2,683	4,282
A. Conservancy and Works ..	4,53,112	3,98,094	4,57,374
B. Establishments	4,03,995	3,73,794	3,64,838
Total expenditure ..	8,59,944	7,74,571 *	8,26,494
Surplus ..	2,31,978	1,97,229	58,022

* Excludes Rs. 1,144 under "A. Conservancy and Works" and Rs. 3,285 under "B. Establishment" incurred by the Working-plans Officer in June 1916, which relate to the Southern Circle.

The surplus was the highest on record in this circle. Of the receipts, 63 per cent were realized from major produce, 10 per cent from minor produce, 9 per cent from grass and grazing and the balance 18 per cent from miscellaneous items. Twenty-eight per cent of the expenditure was devoted to the exploitation of forests, 39 per cent to their upkeep and improvement and 33 per cent to miscellaneous items. The revenue outstanding at the close of the year was Rs. 1,75,029, of which Rs. 78,739 fell due within the year. The increase in the overdue outstandings was due chiefly to defaulting purchasers of timber sold in *North Malabar* and *South Coimbatore.* The estimated value of the produce in sale depots at the end of the year was Rs. 1,52,419 against Rs. 68,147 at its commencement due to the same cause. The important variations between the actuals of the year and those of the preceding year are explained below :—

Receipts.

(i) *By departmental agency.*

Timber + Rs. 34,867.—The increase was contributed by *South Coimbatore* and *South Malabar* due to larger sales of accumulated timber to the public and the Ordnance department in the former and to a larger outturn from thinnings of teak plantations and better prices realized in the latter division. The increase would have been greater but for the non-realization of sale amounts of timber in *North Malabar.*

Fuel + Rs. 5,917.—Due chiefly to larger supply and increased rates realized in *the Nilgiris.*

Bamboos — Rs. 5,459.—Due to stoppage of departmental extraction in *North Malabar* and to low prices realized in *South Malabar* owing to the predominance of bamboos from private sources and to a smaller number of bamboos used for rafting.

Sandalwood + Rs. 1,109.—Calls for no special remarks.

Minor produce — Rs. 17,537.—Due chiefly to the non-sale of catechu in *Mangalore North* for want of good offers, and to the extension of contract system in *Kollegal* and *North Coimbatore.*

(ii) *By purchasers.*

Timber + Rs. 45,530.—Due to introduction of increased rates for trees on darkhast lands in the *Mangalore* divisions, to the collection of arrears in *North Malabar* and to increased revenue by sale of trees on darkhast lands in *North Coimbatore.*

Fuel + Rs. 31,019.—Due to better prices realized for coupes.

Bamboos + Rs. 5,702.—Due to increased demand for construction of plague camps in *Kollegal* and leasing of larger areas in *Central* and *South Coimbatore.*

Grazing + Rs. 21,253.—Due chiefly to the doubling of grazing fees in *North Coimbatore* as a punitive measure for incendiarism.

Minor produce — Rs. 94.—Calls for no remarks.

(iii) *Miscellaneous (including confiscated drift and waif wood).*

— *Rs.* 2,185.—Due chiefly to a smaller amount realized by sale of elephants.

Expenditure.

A. Conservancy and Works + Rs. 55,018.—The chief causes which contributed to the increase were the large demand for fuel from the war establishments in *The Nilgiris*, the payment of arrear rents for the leased forests in *South Malabar*, the special demarcation of district and forest boundaries in *The Nilgirs*, the payment of supplemental compensation for the lands acquired in the Attapadi forests in *Central Coimbatore*, the special survey of the Nilambur teak plantations by the Survey of India Party, and the preparation of the working-plan for the Tekadi leased forests in *South Coimbatore.*

B. Establishment + Rs. 30,201.—The increase was due to the debit of the pay of two probationers for the Provincial service, to the bifurcation of the *South Kanara* district and the posting of the special working-plans staff to the circle.

CHAPTER IV.—RESEARCH AND EXPERIMENTS.

RESEARCH.

153. In *Ganjām* an attempt is being made to see if sal (*Shorea robusta*) can be used for cask staves; here too experimental plots have been laid out with a view to determine when to carry out thinnings in sal coppice, and, whether in cleared strips natural seeding could be relied on or artificial help must be afforded. It is too early to report any results yet. Sample areas were also laid out and measured up with a view to determining the rates of growth of sal trees in untended, lightly, moderately and heavily thinned crops. *Northern Circle.*

Lac culture.—In *Kurnool West* arrangements were made in 1916 with the Esociet, Maihar, to supply brood lac in October for inoculation of *Butea frondosa* and *Zizyphus xylopyra* trees. Unfortunately it proved an absolute failure as the consignment was wrongly despatched by the East Indian Railway to *Karnal* in Northern India and by the time it reached *Kurnool* the new brood had swarmed. The experiment was repeated just after the close of the year and promises to be very successful.

Prevention of creeper coppice by painting the stump with whitewash.—A very large number of creepers referred to a large number of species in the aggregate have been dealt with with no appreciable result. The experiment is being continued with the addition of sulphur in one or two places.

EXPERIMENTS.

154. *Sandal—Gōdāvari Lower.*—Large quantities of seed were dibbled in various reserves, but very few germinated yet. There is no doubt from previous experience in this district that germination may continue up to at least three years. The old plants are in good condition. In other districts some seed was put out in the Napier's Park reserve at Chatrapur in *Ganjām* under *Pterocarpus santalinus* (locally exotic) and *Carissa carandas* bushes. Only 33 plants survived. The trees already in the *Kistna* (Kondapalli reserve), *Vizagapatam* (Nathavaram, Kristnadevipeta, Kondasantha and Golgonda) and in the *Kurnools* continue to do well. An attempt at transplanting in the *Vizagapatam* district was a failure.

Mahogany, Red Sanders, Logwood, Divi-Divi, Hevea, Loquat, Lichi Mango, Apple introduced in small quantities in various districts have done fairly. *Pinus longifolia* is proving a failure in *Vizagaptam* and the edible dates in *Upper Gōdāvari* though alive show no sign of fruiting.

Pouteria suavis is not a success in *Ganjām.* It remains to be seen if it will stand the climate at all.

Ceara will reproduce itself naturally in *Ganjām.*

Teak.—The growth of teak trees in the Kondapalli reserve, *Kistna* district, is poor.

155. *Bellary.*—Nothing was sown or planted in the Moka plantation during the year. The height of the older trees ranges from 20 to 30 feet with 3 feet to 4 feet girth. In the older plantation casuarina is generally dying. Acacia arabica in the Moka plantation is thriving well and it is said that the soil suits it. The seedlings sown in Banavasi reserve have grown into saplings varying in height from 8 feet to 18 feet with 6 inches to 1 foot girth. The seedlings sown in 300 acres of black cotton soil in Badanehal reserve have grown to a height varying from 10 to 14 feet. There was failure in about 100 acres though the area was re-sown in 1916–17, the reason given being that the soil is saline. Seven-hundred and sixty-five acres of black cotton soil of Halharvi reserve were leased out to ryots for cultivation in 1910–11. A fair crop of Melia indica and Acacia arabica has come up over the whole area though there were failures here and there over 60 acres. This work has since been abandoned. The Imperial Sylviculturist from Dehra Dun visited Banavasi and other places during the year. *Central Circle.*

Anantapur.—Nil.

Guntūr.—No experiments were made during the year.

North Cuddapah.—The sowing of sandalwood seed near Marrikatava in Lankamalais of Sidhout range proved a failure. One and a half seers of sandalwood seeds were dibbled in near Vaneshwaram. Only two seedlings are reported to be surviving and the rest died. One is $2\frac{1}{2}$ feet and the other about 1 foot high.

South Cuddapah.—The eucalyptus trees at Mogilipenta in Balapalle range are reported to be doing well. The existing Mahogani and Macrophylla plants are alive, but the rate of growth is very slow. The three sandal plants near the forest guard's quarters at Thummalabylu in Rajampet range are doing well.

During the year Mr. Edward Marsden, the Imperial Sylviculturist, from Dehra Dun visited the division and laid out three sets of sample and experimental plots—

(1) A sample plot in the Kodur red-sanders plantation in order to determine the girth increment and development of heavily thinned red-sanders plantations.

(2) An experimental plot in the same plantation, for the purpose of determining the conditions best suited for natural regeneration of red-sanders.

(3) Two experimental plots in the first timber improvement felling coupe worked under the present system at Kodivengammabhavi, in order to determine (*a*) the volume increment and development of coppice with standard red-sanders crop and (*b*) the effect of thinning the clumps of red-sanders coppice shoots upon the girth and height growths of the coppice shoots. The results of these experiments will be awaited and watched with much interest.

West Cuddapah.—There is little of interest to report. The growth of eucalyptus trees at Kortimadugu in Sanipaya range is not satisfactory. No new experiments were undertaken during the year.

During the year 2 maunds and 34 seers of red-sanders wood were sent to the Director of Industries, United Provinces, Cawnpore, for experiment with regard to the dye known as "Santalin" and he declared the result to be as follows: "The wood has been examined in the laboratory attached to this department and found to be of good quality, but as the dye-principle is insoluble in water and gives dull red to brown shades, its utility is very limited. It is of interest only to wool-dyers who do not care to use it in preference to majith which is now obtainable in these parts in sufficient quantities."

Nellore.—No experiments during the year.

Chingleput.—At the instance of Mr. A. W. Lushington, C.I.E., Temporary Assistant to the Forest Commissioner, a piece of Euphorbia 4′ long and 6″ diameter was cut at the trunk in Paranur reserved forest, its bark was at once removed and the post was kept under water for about 12 days and then dried in the shade. The wood was sent to Mr. C. A. Innes, I.C.S., Director of Industries, Madras, to try and find out if it would be useful for pencil manufacture. The result of the experiment is awaited. Experiments for the destruction of growth of creepers in Guindy Park were tried by cutting back stems of one hundred creepers of Zizyphus Œnoplia, Toddalia aculeata, Capparis horrida and painting them with a solution of lime but they proved a failure.

Two varieties of myrabolams from Kambakkam and Nagalapuram reserves were sent to Forest Economist, Dehra Dun, for chemical analysis and to report on their value as tanning material as they were rejected by local tanneries. The Economist declared the quality to be the poorest he ever saw.

Chittoor.—Swietenia Mahogani plants in Palmaner and Horsleykonda and Eucalyptus Globulus trees in Nagamangalam and Mudivaripalle topes are reported to be doing fairly well. There were no new experiments conducted during the year.

1. *Sandal.*

Southern Circle.

156. The most important research work carried out during the year was in connection with sandal which plays such a prominent part in this circle.

(*a*) *The effect of girdling.*—(1) Although deeply girdled four out of the six trees experimented upon took nearly three years to die.

(2) By girdling the white sapwood between the bark and the heartwood has assumed a greyish brown appearance which may be mistaken for heartwood, but this wood contains no scent.

(3) Apparently the heartwood is not increased by girdling.

(4) The slow drying of the heartwood caused by girdling gives it a greater freedom from cracks than in the case where wood is taken from a dying tree, but girdled wood is by no means free from cracks.

These results were obtained from experiments in South Vellore but are not conclusive. They are being continued over a large number of trees.

(*b*) *Is sandal an obligate root parasite.*—In South Vellore six trees have been entrenched, one in February 1916 and five in August 1916. Every green weed is removed from the platform immediately it appears and the platforms are kept scrupulously clean except for young sandal seedlings which spring up from time to time.

A special register is kept for noting observations on the health of each tree and, as the experiment is being conducted at Komattiyeri in South Vellore, the Principal of the Forest College is able to watch the experiment as well as the Conservator. Up to date there is no apparent sign of weakness in any of the trees.

Closely connected with the same subject is an experiment being carried on at Andiappanur in West Vellore. The object of these experiments was to see if anything resembling spike could be produced by cutting off some of the haustoria and poisoning the root by injections of sulphuric acid. Unfortunately the date on which these operations were carried out has not been reported. The trees experimented upon have not as yet shown any signs of abnormality.

(*c*) *Rate of growth.*—From an examination of billets selected haphazard from the Vellore depot there did not appear to be any difficulty in making out the rings. In exceptional cases these were not as clear as others. The observation will be made on a larger scale.

In the meanwhile measurements over a considerable number of trees in the "special tending" areas are being carried out and carefully recorded both in the South and West Vellore divisions.

(*d*) *The production of root suckers.*—In cutting the trenches referred to under (*b*) it was noticed that vigorous root suckers were produced and this phenomenon is very apparent in almost every sandal forest in the Presidency. In order to see if this method of reproduction could be utilised a sample plot was demarcated with a trench 1½ feet to 2 feet deep and 2 feet wide. By the end of the year a line of vigorous root suckers has been produced with apparently no deleterious effect upon the mother trees. This method of reproduction will probably be utilised in future when dying trees are extracted. A trench will be cut at some distance from the tree before the actual uprootal takes place.

(*e*) *Spike disease.*—Considerable progress has been made in the investigation of this disease. Dr. Coleman's valuable pamphlet was published during the year which has proved that the disease can be successfully grafted on to a sound tree, but his experiments have gone further than this in showing that the disease in Zizyphus œnoplia, Stachytarpheta and Vinca is either the same or very similar and can be produced by grafting.

Mr. Hearsey, who has been carrying out field experiments during the year, has added considerably to our knowledge in this direction. He has shown that, in all the forests where the disease is prevalent, there is an abundance of sucking insects which increase with remarkable rapidity. These sucking insects which are known to be most injurious to crops, orange groves, orchards, etc., are now placed under suspicion.

The chief of them are the following :—

(1) Red Spider (a small arachnid).
(2) Monophlebus.
(3) Icerya (2 species).
(4) Psyllidae.

The last named are known to produce a spike-like form of growth in a species of Indigo, in Cassia Fistula and Albizzia Lebbek. The Red Spider seems to be closely connected with the spike-like growth in Zizyphus œonplia, Dodonaea Viscosa, Scutia Indica, Argyreia cuneata and other species and Dr. Coleman has been able to verify the fact that there is excess of starch in the specimens of Dodonaea and

Scutia which were sent to him. This excess of starch is one of the characteristics of spike in sandal. Experimenting with the Monophlepus and Icerya under cages, Mr. Hearsey has not been able to produce spike as yet, but has apparently killed or nearly killed healthy saplings.

Incidentally it may be mentioned that the damage done to orange groves in California by the Red Spider is well known, whilst the ravages of the Icerya in Egypt were so great that the one specimen introduced into England was immediately killed after it had been described.

Apart from his observations on insects, Mr. Hearsey has given us a good deal of information concerning what are believed to be the early stages of spike. In the spiked areas he has found abnormality of leaf, abnormality of flowers and what is believed to be an early stage of the disease which has been called 'lanky spike.' This 'lanky spike' has neither excess of starch nor the 'bunching' of leaf which are the known characters of spike but, in places so wide apart as Tholuvabetta in North Salem and Nellivasal in the Javadis of West Vellore, lanky spike has been found in conjunction with the better known form of spike. Another species which exhibits both forms is the Dodonaea Viscosa and in this case excess of starch is apparent in both. Finally Mr. Hearsey's list of species attacked by spike-like growth now amounts to well over 40 and observations tend to show that almost every associate of sandal is attacked with the disease, though the disease is not so fatal with species other than sandal.

(2) *Other root parasites.*

157. Observations on the root parasitism of Ximenia Americana found growing in the Javadis of South Vellore have been made and specimens sent to the Coimbatore Museum.

Similar observations and collections of specimens have been made of the haustoria of Anocolosa densiflora, the giant root parasite of the ever-green forests of Tinnevelly.

(3) *Thinnings on coppice shoots.*

158. Three years ago a sample plot was laid out in Mundanthorai in the Tinnevelly district where the thinning of coppice in a three year old coupe was carried out. The number of shoots was reduced to 2 or 1 per stump. After three years the results tend to show that the unthinned stools are better than those which have been thinned.

Similar experiments have been started in Madura more recently, the species placed under observation being the Albizzia Amara.

(4) *Thinning of bamboo clumps.*

159. These have been carried out for some years in Tinnevelly. At first it was thought that the results would be harmful. More recent observations tend to show that the number of new culms produced on the thinned clumps is larger than those on the unthinned and that working becomes much easier. When a big clump is heavily thinned, there is undoubtedly a tendency for the remaining culms to become bent.

Further observations are being conducted in Ambur in *North Vellore*, the Javadis of *South Vellore*, and Belur Reserve in *South Salem.*

(5) *Hardwickia Binata.*

160. The tendency of this species to form a bush for some years and only to grow in height after several years is well known. Experiments were carried out in the Pichanur tope in North Vellore to test the effect of pruning the lower branches. The District Forest Officer now reports that the results show conclusively that the seedlings put on markedly rapid height growth when pruned. A similar observation has been made on Pterocarpus santalinus in Banavaram Reserve and these experiments may well be carried out on a larger scale in the natural forests of these species.

(6) *The regeneration of evergreen forests.*

161. Experiments have been carried out for the past seven years in opening out lines in the evergreen and sowing or planting Hopea Parviflora. These have not on the whole proved a success though in Kannikatti in Tinnevelly some well established plants have been raised. It is thought that this species like the Sal may require a more thoroughly cleaned soil and less cover. The Hopea, however, is a poor seeder and germination is difficult and possibly the Balanocarpus utilis, a closely allied species with a heavier seed, will give better results.

Capital regeneration of Gluta Travancorica has been secured by opening out the canopy under mother trees. These experiments have only been on a small scale and can now well be extended, dibbling being tried where the reproduction secured is insufficient.

(7) *The destruction of creeper growth.*

162. An experiment was tried in *North Vellore*, *West Vellore*, *South Arcot*, *Trichinopoly*, *South Salem* and *Madura* to destroy creeper growth by painting on a solution of sulphur and lime and in some cases lime alone. Various species were experimented upon but especially Zizyphus Oenoplia. It is universally reported that the painting did not stop the production of shoots which sprung out from the dormant buds below the cut surface. The actual figures for the four ranges of *South Arcot* are given below :—

Tindivanam Range—	
Number of stumps tried	621
Number died	101
Cuddalore Range—	
Number of stumps tried	225
Number died	Nil.
Tirukkoyilur Range—	
Number of stumps tried	210
Number died	Nil.
Kallakurichi Range—	
Number of stumps tried	160
Number sent out shoots	132

The observations will not be continued.

163. A further consignment of sandalwood from *South Kanara* was sent for analysis to Dehra Dun and the result confirmed the previous dictum that this wood is much the richest in the market. *Western Circle.*

The destruction of creepers by painting with lime was tried in four divisions and failed.

The final report upon the cost of felling and floating bamboos from Nilambur to the coast was submitted to the Board. The report was called for in connexion with Messrs. Nelson's scheme of establishing a paper pulp mill near Beypore. The results are favourable to the project which, it is hoped, will be revived after the war.

Experiments with underplanting the teak plantations at Nilambur with likely species were carried out. The best success was attained with rosewood of which four-fifths of the plants put out survived. Broadcast sowing of *Hopea* failed. The seed of this species retains its vitality for a very short time after its shedding. Another lot was sown at the close of the year as well as 21 bags of *Terminalia paniculata.* The results will be recorded next year.

Teak fuel billets from Nilambur were sent to the Institute of Science, Bangalore, for experiments with dry distillation. The best yield of acetic acid was obtained from the smallest sizes and, in accordance with a further requisition from Dr. Sudborough, 9 cwt. of billets from 1″ to 6″ diameter have lately been despatched to him.

Barks of the Australian Wattles—*Acacia decurrens* and *Acacia dealbata* from the *Nilgiri* plateau were sent to various tanneries for valuation. Whilst the former, which is scarce, is now acknowledged to be a valuable tanning agent, unfortunately the *dealbata*, which is most common on the hills, was not successful. It is probable however that this variety only awaits the discovery of the proper method of using it.

A small quantity of "cutch" was prepared in *Kollegal* from *Acacia sundra* and sent to Dehra Dun but was found to contain no catechin.

In *North Coimbatore* dibblings with sandal seed soaked for a few hours in kerosine oil as a protection against rats and squirrels was tried as against untreated seed. The District Forest Officer reports that seven months later there was 11 per cent of successful germination from the former, whereas the whole of the untreated seed was apparently destroyed.

CHAPTER V.—ADMINISTRATION.

Northern Circle.

164. *New District Forest charges.*—No new district charges were formed during the year. Proposal to form a fourth division in the *Kurnool* district has been abandoned and the Collector has been requested to formulate proposals for the formation of a subdivision instead.

165. *New ranges.*—There were no changes during the year.

166. *Conduct of establishment.*—The quality of the rangers and deputy rangers varies considerably. Several of the men are quite good, others useless or even worse and the process of elimination goes on steadily. Eleven per cent of this establishment received serious punishments during the year. Special mention may be made of the work of Rangers M.R.Ry. P. Ramunni Menon, V. S. Subrahmanya Ayyar, C. G. Ganapati and N. Sundaresa Ayyar, and Deputy Rangers Aga Mirza Sahib, D. Ramachandra Rao, K. Venkataramayya, T. Qasim Khan and A. K. Sheriff.

Protective staff.—The conduct of this branch was unsatisfactory on the whole. One forester was convicted; six forest guards and two watchers were dismissed; two foresters, sixteen forest guards, 44 watchers, eight tannadars and one plantation overseer were removed; nine foresters, 17 forest guards, 11 watchers, six tannadars and one plantation overseer were suspended; two forest guards and one watcher were reduced. It is hoped that a modification of the "Patrol system" as at present in force will have some effect in improving the conditions of service.

Ministerial staff.—Its work and conduct are reported to be satisfactory except in *Kurnool East* and *West*, where the Collector remarks "until the scale of pay of clerks in the forest branch is assimilated to that in the general revenue establishment, it must be a matter of difficulty to arrange for the free interchange of establishment." I think the scales in this department were however worked out so as to induce junior clerks to take up appointments on a steady increment which would entitle them to promotion in the general line in the Collector's office and it is possibly the failure to provide promotion elsewhere that is the root of the trouble. There is, of course, more work in the forest office much of which does not appear in correspondence registers.

167. *Health of the establishment and casualties.*—This would appear to be the most malarious circle in the Presidency. The health of the establishment was as usual bad except in *Kistna.* One ranger, one deputy ranger, four foresters and thirteen lower subordinates died. Besides these several men took leave on account of illhealth (malaria).

168. *Relations between revenue and forest officials* continued to be cordial.

169. *Service books* were maintained and verified in all the divisions.

170. *Tours of the Forest Member.*—The Forest Member visited the *Kistna* and *Kurnool* districts during the year.

Tours of the Conservator.—Mr. F. L. C. Cowley-Brown was in charge of the circle up to 4th November 1916 when he had to take leave on account of ill-health; he was succeeded by Mr. H. A. Latham. These two officers spent 178 days in camp visiting all the divisions in the circle. All the district forest offices were inspected during the year.

Inspection of Range offices.—All the range offices except Nugur and Cherla in *Gōdāvari Upper* and Morricheruvu in *Kurnool East* were inspected by the respective District Forest Officers.

Audit of accounts of the District Forest offices.—The accounts of all the district forest offices were audited by the auditors from the Accountant-General's office and the general results were satisfactory.

171. *The Madras Forest College.*—Out of the six students deputed for 1915–17 course, one was sent back as unfit to follow the course, two obtained the higher standard certificates and three the lower standard certificates. Of the six students deputed for 1916–18 course, two were sent back as unfit to follow the course and the rest are undergoing training. Six Government students were deputed for the course commencing from 1st August 1917.

Vernacular Training school.—No school was held during the year for want of suitable candidates in the circle.

172. *Work and service of superior officers.*—Imperial and Provincial officers have worked satisfactorily in spite of the shortage of men. Mr. Minchin in Ganjām has worked hard in collecting information for a working plan for the *sāl* in his district; Mr. Madan in East Kurnool seems to have solved the question of how to utilize the Chenchu without dead loss to Government. Mr. Seager has also done well. Mr. McLaughlin, Extra Assistant Conservator of Forests, retired in February 1917 after a lengthy period of service in the department.

173. Mr. H. B. Bryant was in charge of the circle throughout the year. Consequent on the issue of G.O. No. 260, Revenue, dated 7th February 1916, the Conservator and his office have been given a large amount of additional work without at the same time being given any additional assistance to enable him to efficiently cope with it. The matter has been fully and clearly represented to the Board in this office C. No. 207, dated 18th August 1917, wherein it has been urged that the appointment of a Personal Assistant of the Imperial Forest Service is necessary to the Conservator if good progress and development of the forests of the circle are to be expected. *Central Circle.*

174. *District and range charges.*—The division of Cuddapah district into three district forest charges was given effect to from 1st April 1917. Consequent on this, the old Vempalli range was divided into two ranges, viz., Vempalli and Muddanur, and the old Kodur range into Kodur and Balapalle ranges. The range charges in this district are still far too large and will have to be further subdivided. Five years ago the area which now forms the South Cuddapah Forest division and which follows more or less the boundary of the old Pullampet taluk was merely one single forest range in charge of a single ranger. Development of the forests therein has been so rapid that it now consists of four important range charges under its own District Forest Officer.

In the West Cuddapah division there are now four ranges, but this division is now ripe for development on the same lines as that of the south division, but before attempting such development, it is *essential* to further subdivide the four ranges into six so as to make each range more of a manageable unit than it is at present. The Conservator has already addressed the Collector on the subject under paragraph 5 of the Forest Code and, on receiving his reply, will shortly address the Board.

Speaking generally there is an enormous amount of development necessary and called for in the circle, but with the insufficient and inefficient establishment at the Conservator's disposal, such development is practically impossible.

In Bellary district the Hospet and Sandur ranges were amalgamated into the Hospet range. The division of Tirupati range in Chittoor district into Mamandur and Chamala ranges took effect from 1st October 1916, this being rendered essential because more intensive working in Mamandur range has actually been commenced.

175. *Work of superior officers.*—The reports of Collectors on the work of their District Forest Officers are given below :—

Mr. Usman Sahib (Anantapur).—So far as I have been able to judge Mr. A. B. Myers has been discharging his duties satisfactorily.

Mr. E. A. Davis (Guntūr).—I am glad to be able to acknowledge the strenuous work which the District Forest Officer Mr. M. Panchapakesa Ayyar has done during the year. He has had the double task of administration and of preparing preliminary working-plans for several important areas and has spared no effort to put forest matters in this district on a better footing.

In addition to the above, Mr. E. A. Davis has in his forwarding endorsement made some valuable remarks concerning the forest administration ; with these remarks the Conservator is almost in complete agreement and takes the liberty of attaching a copy of them in full at the end of this report for the perusal of all those who may be interested in the subject. Mr. Davis is, I know personally, well aware that, owing to the extreme paucity of Forest trained establishment, it is practically impossible for the Conservator to take up more than one or two at the most of the districts which comprise the circle in order to make serious attempts to push development and work the forests therein more intensively. Guntūr from sheer force of circumstances is one of those districts which have had to be neglected. The fault does not lie with successive Conservators of the circle but in the false economy which has been practised in the past in not providing an adequate Forest staff for the department.

Mr. P. C. Dutt (Cuddapah).—Mr. Saiyid Abdul Qadir was District Forest Officer of North Cuddapah for the last three months of the year. Both Messrs Whitehead and Belliappa of South Cuddapah (old East Cuddapah) are to be commended for their efficient management of these very valuable forests. With experience Mr. Belliappa will turn out a very good Forest officer. Mr. Hafiz is keen on learning his work. Both Messrs. A. Raju Nayakkar and E. V. Padmanabha Pillai who were District Forest Officers of West Cuddapah were keen and intelligent and did all they could to conserve and improve the forests under their charge.

In forwarding the annual report of the South division, the Collector of Cuddapah writes in paragraph 2 of his endorsement as follows :—

"In connexion with the forest village scheme prepared by Mr. Whitehead I inspected some portions of these forests and interviewed many of the ryots. I was singularly struck by the paucity of complaints the people had to make against the forest subordinates: whatever may be the case elsewhere the people here had very few even imaginary complaints against the department."

I quote the above Collector's remark in full, for it is not often that such a satisfactory state of affairs is reported with regard to the department and the people of any locality, and in this particular locality such remark could not have correctly been applied five years ago as it can indeed be now. The reason for this change is not far to seek. It is because real forest administration which is worthy of the name has been established in this division; by "forest administration" is meant the proper and intensive working of the forests for the benefit of the community at large as well as for the local inhabitants, whereby the forest subordinates have definite work apportioned to each of them and by sufficient supervision and control they are made to do it, and the local villagers themselves are largely employed in carrying out forest work and are thus helped to earn a legitimate livelihood instead of supplying as was the case in this very locality a few years ago, many of the most notorious red sanders timber thieves. It is with the object of introducing such forest administration as this in other and more extensive localities in the Presidency that the department has been crying out aloud for more trained forest establishment as yet however in vain. Wherever real forest administration of the kind is introduced and established with sympathetic tact and discretion the complaints against the department real and imaginary will be reduced to a minimum.

In *Nellore* the Collector Mr. C. A. Souter writes :—

"There can be little doubt that the kancha system is a success and for this we are indebted to the interest displayed in it by the late Mr. Arbuthnot whose untimely deathhas been such a loss to the district. Mr. Ramanuja Achari, on special duty, has also assisted materially and it is due to his exertions that the prices realized for kanchas are so good.

"I have nothing to say with regard to the general administratio of the department. I fear, however, that in view of the forest revenue an insufficient sum is expended on the development and working of the forests poor as they are in general."

The Conservator entirely concurs with the above remarks. Mr. H. F. Arbuthnot's death was not only a serious loss to the Nellore district but also to the

department; and undoubtedly it is a fact that it is owing to his untiring zeal and interest in the system that the kancha grazing system has been successfully established in the district and will, it is hoped, show improvement year by year, and in the Conservator's opinion this will certainly take place if the system continues to be properly worked.

Mr. J. F. Bryant (Chingleput).—Both Messrs. Gajaraja Mudaliyar and S. V. Deva Dasan worked hard and conscientiously. The Collector is especially pleased with Mr. S. V. Deva Dasan.

176. *Conservator's remarks.*—All the District Forest Officers in the circle have worked hard and done their best, often under very trying circumstances. Severely handicapped as they continue to be by insufficient and inefficient establishment the surprise is that they are able to carry on so well as they do and show such good results. The Conservator desires herein to place on record his appreciation of their work and efforts, and his cordial thanks for the zeal and energy which they have displayed in the execution of their duties often in face of difficulties well calculated to depress and discourage men with less spirit than they have shown.

177. *Executive staff.*—The work and conduct of rangers cannot on the whole be considered satisfactory.

During the year three rangers were dismissed, the services of one dispensed with, one was suspended and subsequently dismissed. Four rangers were reduced, one ranger tendered his resignation and it was accepted. He appealed to Board, and was re-instated and transferred to another circle. This is not a record of which the circle can be proud; and it is to be feared that the delay which has taken place in reorganizing this branch of the service whereby improvement of its prospects has long been hoped and looked for by executive officers has had a good deal to do with the unsatisfactory condition of the staff at the present time. Until reorganization comes the Conservator sees very little prospect of much improvement being obtainable.

178. *Protective staff.*—The conduct of this staff cannot be said to be satisfactory. Among the foresters two were dismissed, three were dispensed with, nine suspended, thirteen reduced and one resigned. Among the guards 9 were dismissed, services of 51 were dispensed with, 51 suspended, 13 reduced and 11 resigned. The present unsatisfactory state is due partly to their poor pay and prospects and partly to the inferiority of rangers under whom they have to work. Reorganization is urgently called for, and the remarks made under the "Executive staff" above are equally applicable here.

179. *Ministerial establishment.*—The work is reported to be satisfactory in all districts except *Bellary* and *Anantapur*. The Conservator considers that there is room for improvement especially in *Nellore.*

180. *Health of establishment and casualties.*—Health of establishment is reported to have been generally good in all districts except *West Cuddapah* where it was very bad. Mr. Arbuthnot, I.F.S., died of appendicitis at Kodaikānal. Three guards died of fever and one clerk of cholera.

181. *Relations between Revenue and Forest officers* were cordial throughout the circle.

182. *Service books* were maintained and verified in all districts.

183. *Touring of the Imperial Sylviculturist from Dehra Dun.*—During the year Mr. Marsden visited a portion of Cuddapah district and reference to his visit has been made in Chapter IV supra.

184. *Conservator's inspection.*—All the district forest offices except *Cuddapah* and *Chittoor* were inspected during the year. Some of the forests of *Bellary*, *Chittoor* and *Chingleput* districts were inspected and inspection notes recorded in B.P. Forest Mis. No. 14 (Confdl. No. 2), dated 10th January 1917, and No. 143, dated 21st October 1916, respectively, with regard to the first two.

185. *Inspection of Range offices.*—All the range offices except Balapalle range of *South Cuddapah*, Muddanur range of *West Cuddapah* and Rapur range of *Nellore* district were inspected.

186. *Audit of accounts of District Forest offices.*—The accounts of all districts for 1915–16 were inspected by the Assistant Inspector of Local Fund Accounts and the general result was satisfactory.

187. *Imperial Forest College, Dehra Dun.*—No one was deputed from this circle during the year.

188. *The Madras Forest College, Coimbatore.*—Six deputy rangers were deputed during the year. One ranger returned with honour's certificate and four with higher standard certificates. The result is satisfactory.

189. *Vernacular Training school.*—The school was held at Chittoor district and 7 foresters and 23 guards underwent training. The school did good work under Instructor M.R.Ry. V. N. Seshagiri Rao and his Assistant S. M. Razvi Sahib. The District Forest Officer took much interest in its management.

Southern Circle.

190. The chief administrative feature of this year is the transfer of the land revenue administration of certain Javadi Hill villages in North Arcot district from the Land Revenue to the Forest Department and the appointment of the District Forest Officer, Mr. George Venugopal, as Deputy Collector.

191. *Circle charge.*—Mr. P. M. Lushington held charge of the circle throughout the year.

192. *Divisional charges.*—The bifurcation of the *South Vellore* division into the *South* and *West Vellore* divisions sanctioned last year was given effect to during the year.

The Board has approved of the Conservator's proposal to abolish the Trichinopoly District Forest office and to form a new district attached to Salem as soon as the District Forest Officer divests himself of the plain forests. The reserved forests of Pulanjimalai, Athipakkam and Pavunjipattu were transferred from the *South Arcot* to *South Vellore* division. The Suriyamalai reserve was transferred from *South* to *North Salem.*

193. *Range charges—Madura.*—The Palamedu and Kanavoipatti ranges were converted in May 1917 into the three ranges known as Nattam, Sholavandan and Ayyalur.

194. *Work of superior officers.*—The work of superior officers has been good but some officers have had to devote a considerable amount of their time to their military duties.

Particularly good work has been done by M.R.Ry. K. R. Venkataramana Ayyar Avargal in charge of the South Vellore division.

195. *Executive staff.*—The work and conduct of the Rangers has on the whole been good.

One Ranger was dismissed and two were placed under suspension. The Deputy Rangers as a whole have done fair work, one has been dismissed and one suspended. It is, however, difficult to recruit men who have good educational qualifications and who are at the same time fit for the rough forest life and the probationary period of four men had to be terminated.

196. *Protective staff.*—The work and conduct of the protective staff has as usual not been quite satisfactory. One Forest Guard in Tinnevelly retired from service. There were 233 removals or dismissals, 133 suspensions and 16 reductions in this class.

197. *Ministerial establishment.*—The work of the ministerial establishment is reported to be satisfactory in all the districts except North Salem.

198. *Health of the establishment.*—The health was generally good though the hill ranges of the Javadis, Chitteris, Kalroyans, Pachamalais and Kollimalais are still feared.

The Agricultural Engineering Department engaged in the boring of tube wells on the Javadis have got through very little work as subordinates take leave or resign directly they are sent to the hills.

199. *Casualties.*—Five forest guards, one range clerk, one tannadar and one watcher died of malarial fever. One forest guard and four watchers died of other causes.

200. *Relation between Revenue and Forest officers* continued to be cordial as usual throughout the year.

201. *Service Books* were maintained and verified in all districts.

202. *Conservator's inspection.*—The Conservator was on tour for 165 days. All the districts except South Arcot and Madura were visited and all the District Forest offices except Madura and Trichinopoly inspected. Inspection notes were written for North and South Vellore and for the Pachamalais and Kollimalais of South Salem and Trichinopoly districts. The Conservator inspected the forests around Mundanthorai in Tinnevelly district during the year with the Imperial Sylviculturist, Dehra Dun, and with Mr. A. W. Lushington shortly after the close of the year. Nearly a month was taken up by the inspection of tanneries in Trichinopoly, Salem, Ambur, Gudiyattam and Vellore.

203. *Touring of District Forest officers.*—All the District Forest officers spent more than the prescribed minimnm period in camp except the District Forest Officer, Trichinopoly, whose touring was short by one day.

204. *Forest Commissioner's tour.*—The Forest Commissioner toured in Salem, North Arcot and Tinnevelly districts.

205. *Inspection of Range offices and Sale depots.*—All the Range offices except one in North Salem and another in Tinnevelly were inspected. Sale depots were also inspected during the year.

206. *Audit of accounts of District Forest offices.*—The accounts of all the District Forest offices except South Arcot were audited during the year by the Assistant Inspector of Local Fund Accounts and the result was satisfactory.

207. *Madras Forest College, Coimbatore.*—Four Deputy Rangers returned this year from the college with higher standard certificates. Out of two Probationary Rangers and four Deputy Rangers deputed for 1916–1918 course, one Deputy Ranger was sent down being unable to follow the course. Seven Deputy Rangers have been deputed for the 1917–1919 course.

208. *Vernacular Training School.*—The school was held in North Vellore division. Out of 30 students selected for deputation one did not join on account of illhealth and another deserted and was finally removed from service. The remaining 28 students successfully underwent the training. Mr. A. K. Kandan and Mr. T. V. Govinda Rao were appointed as Instructor and Assistant Instructor, respectively, and both showed much energy and interest in their work.

209. Mr. H. A. Latham held charge of the circle up to 27th October 1916 when the permanent Conservator Mr. C. D. McCarthy returned from leave and continued throughout the year. *Western Circle.*

District and Range charges.—There were no changes during the year.

Work and services.

210. *Superior officers.*—The results of the year in all divisions with the exception of *Kollegal* speak for the enthusiasm, energy and efficiency of all the District Forest Officers who held charge of them. As regards hard work and keenness it would be invidious to select any names for special mention and as regards efficiency both Imperial and Provincial Officers have worked with merit and success up to their respective standards. Messrs. Wood and Bourne had charge of heavy working-plan work in addition to their usual duties.

211. *Executive establishment—Rangers.*—The work of Rangers with a few exceptions is generally well reported on. One Ranger who was incompetent resigned and the services of one acting Ranger were dispensed with. *Deputy Rangers*—On the whole fairly satisfactory. The services of three were dispensed with, one was reverted, one suspended and two resigned.

212. *Protective staff.*—The work and conduct of the staff with a few exceptions among Foresters was by no means satisfactory. *Punishments—Foresters.*—The sevices of one were dispensed with, three were suspended and four reduced. *Guards.*—Dismissals 8, removals from service 7, suspensions 23 and reductions 5.

213. *Ministerial establishment.*—The post of temporary draftsman in the District Forest offices of *South Malabar* and the *Nilgiris* was made permanent, but the order so far as it relates to the former division was not given effect to pending completion of the working-plan for the teak plantations. *Circle office.*—The staff of Circle office have worked well under the control of Mr. Ramanuja Ayyangar whose experience

and keenness is highly commendable. *Divisional offices.*—The work of the establishment was generally satisfactory. But there is room for improvement in all of them. *Range offices.*—The work of the Range establishments in *Mangalore* divisions, the *Nilgiris*, *Kollegal* and *North* and *South Coimbatore* has not been specially referred to; it is reported to be satisfactory in *North Malabar* and *Central Coimbatore* and unsatisfactory in *South Malabar.*

Punishments—Divisional offices.—The head clerk of *North Malabar* was suspended and the services of the temporary clerk in the same office were dispensed with. The draftsman of the *North Coimbatore* office who was incompetent resigned. *Range offices.*—One Range clerk in *Kollegal* was dismissed, the services of one in each of *Mangalore South* and *South Coimbatore* were dispensed with and two clerks in *Central Coimbatore* were suspended.

214. *Health of the establishment and casualties.*—The health of the establishment was fair in *Mangalore* divisions except at foot of the ghats where malaria was, as usual, prevalent and bad elsewhere except on the *Nilgiri* plateau. A large number of subordinates have had to be granted sick leave. *Casualties.*—Two Rangers and one guard retired; two Rangers were invalided. There were four deaths in the *Nilgiris*, five in *Kollegal*, three in *North Coimbatore*, two in *Central Coimbatore* and one in each of *South Malabar* and *South Coimbatore.*

215. *Relations between Revenue and Forest officers.*—The relations continued to be cordial. The District Forest Officer, *Central Coimbatore* and one of the Range officers in *Kollegal* attended the Jamabandi. Such attendance was not as usual, required in *Malabar* and was not carried out in the other districts. No matters of importance were brought to the notice of the Jamabandi officers.

216. *Service books.*—Maintained and verified up to the close of the financial year.

217. *Tours of the Forest Member.*—The Forest Member toured in *Central* and *South Coimbatore* and in the *Nilgiris.*

218. *Conservator's inspection.*—All the District Forest offices except *Kollegal* were inspected with fairly satisfactory results except as regards *Central Coimbatore* which was in very bad order. The forests of *Mangalore North*, *North* and *Central Coimbatore* and parts of the *Nilgiris* and *South Coimbatore* were also inspected. The number of days spent in camp was 196.

219. *Touring of District Forest Officers.*—With the exception of the District Forest Officer, *South Malabar*, all the others spent in camp more than the minimum period of touring prescribed. The short touring in *South Malabar* is due to the greater part of his working-plan work—stock mapping of plantations and timber operations, etc.,—lying within the five-mile radius of his headquarters.

220. *Audit of accounts of District Forest offices.*—The accounts of all the offices were audited by the Local Fund Audit staff. The Assistant Accountant-General inspected also the accounts of *North* and *South Malabar*, the *Nilgiris*, *North* and *South Coimbatore.* The results are reported to be satisfactory.

221. *Inspection of Range offices.*—All the Range offices were inspected with generally satisfactory results except two in *Central Coimbatore* and one in *South Coimbatore.* With the exception of the Topslip depot in *South Coimbatore* all depots were inspected. The results of the inspection of four depots in *South Coimbatore* were not satisfactory; the other depots in the circle were in good order.

222. *The Madras Forest College, Coimbatore.*—Two probationary Rangers and two Deputy Rangers passed the course with higher standard certificates. One probationary Ranger and five Deputy Rangers were deputed for the 1916–18 course; one of the Deputy Rangers was sent back on account of illhealth.

223. *The Imperial Forest Research Institute and College.*—One probationer for the Provincial service was deputed for training and three probationers returned to this circle after successfully passing the course.

224. *The Vernacular Training School.*—Of the 27 students remaining at the end of the last session held in *North Coimbatore*, five secured first class and 22 second class certificates. The work of eight students was unsatisfactory. This year's session was held in *South Coimbatore* and subordinates from the *Nilgiris*, *Kollegal* and *North Coimbatore* were also deputed for training. The strength of the school at its start was 11. Owing to the smaller number only one Instructor was employed.

CHAPTER VI.—GENERAL.

(*a*) Rules under the Forest Act.

225. *Timber transit rules.*—(i) The rules are reported to have worked satisfactorily in all the divisions. The rules of the *Vizagapatam* division were amended during the year and the issue of way permit in Form No. IV was introduced. The timber transit rules in Yerramalais introduced in 1914-15 were cancelled as they were considered to be unduly irksome and also illegal. *Northern Circle.*

(ii) *Rules under section* 26 *of the Forest Act*—have worked satisfactorily and there was no complaint or abuse reported except in Buguda range, *Ganjām* district, where the ryots have been cutting classified trees in unreserves.

(iii) *Rules framed for the collection and disposal of driftwood.*—The revised rules introduced last year are reported to have worked well.

(iv) *Rules for the guidance of Forest officers in compounding forest offences.*—These rules worked smoothly and well in all the divisions.

(v) *Rules framed under the Forest Act for private forests*—are reported to have worked satisfactorily.

The appointment of a Special Forest Officer has done a good deal to reduce 'podu' (kumri or taungya) in the Golgonda Agency and Madgole hills.

It is reported that Kurupam estate has proceeded rather fast with reservation as many villages are largely dependent on 'podu' and that it would be well to proceed more slowly, as there is little or no good waste land in the estate for grant to people who would be deprived of their livelihood.

(*b*) Supply of forest produce to meet the wants of the people.

226. Coupes in convenient localities for the supply of fuel, timber and bamboos were generally sold to contractors to meet the wants of the people. In *Gōdāvari Lower* the mangrove areas in the Kandikuppa and Coringa reserves were worked for supply of fuel to the fishing folk at fixed rates and the system worked satisfactorily. In *Kurnool East* agricultural implements and bamboos were collected departmentally by the Chenchus and sold to the public. In *Kurnool West* departmental collection of timber and fuel was also undertaken to provide work for the Chenchus. The prepaid indent scheme referred to in last year's administration report was not received with enthusiasm.

227. *Free removal of grass.*—This was permitted in *Vizagapatam*, *Gōdāvari Lower*, *Kistna* and the three *Kurnools*, and was freely availed of by ryots except in *Kurnool South*. In *Kurnool East* two villages of the Cumbum range were not allowed this concession, since they were suspected of having set fire to the forests.

228. *Hill tribes.*—In *Ganjām* the assistance practically of all Khonds living adjacent to or inside the reserves was enlisted in fire and general protection of forests, and in return for work done were allowed free removals of forest produce for domestic consumption or were given cloths or rice. The Gogodo Khonds whose lands had fallen into the hands of money-lenders were granted waste lands after the tree growth above two feet in girth standing thereon had been auctioned. In *Vizagapatam* the hill people had no complaints against the working of the Forest Laws and the privileges given to them were in no way abused; but a few agency villages were warned that they would lose their privileges if better protection of portions of reserves from illicit felling was not secured. In *Gōdāvari Upper* the Koyas and Reddis did good work in clearing fire lines and protecting the forests from fire. Payments for line-clearing and rewards for successful protection of the previous year were distributed by the District Forest Officer as usual. It would be well to make the payments for fire protection proportional to the results obtained after having allotted before the fire season a fixed maximum sum for each village or group of villages. This remark applies also to *Ganjām*. In *Gōdāvari Lower* the co-operation of the Koyas and Reddis in the Polavaram and Yellavaram divisions was enlisted as in the last year in the matter of fire protection as well as in the general protection of forests, and they were also employed on road, building and demarcation works.

The principal event of the year affecting Chenchu policy was the appointment of Mr. Saunders, Assistant Superintendent of Police, as Special Chenchu officer for the reformation of the Chenchus. His operations are at present restricted to the more populated portion of the Nallamalais, north of railway line. In *Kurnool East* the Chenchus on the whole behaved in a very satisfactory manner. They were, as usual, employed on almost all the forest works, such as collection of major or minor produce, on the fire protection, roads and bunding works, and as fire patrols and bungalow watchers. In nine gudems, the Chenchus made an attempt at cultivation. The best results were obtained in Garapenta where about 56 acres were cultivated. A drawback is that the great majority of the Chenchus have no plough bulls and have to hire villagers to plough their fields. The Collector is making provision in the Chenchu officer's budget for purchase of bulls for their use. In *Kurnool South* the Chenchus were employed on fire protection works and cultural operations and as fire patrols. In *Kurnool West* the Chenchus were employed on plantation works, collection of minor produce, timber and fuel felling, line-cutting, road repairs and bunding streams. They were also engaged to a small extent by contractors for bamboo work and tanning bark collection. The original Chenchu work—plantation work—being in its final stage as further lands suited to the purpose were not available and because the expense was absolutely prohibitive (it has amounted to as much as 400 rupees per acre of established plantation), efforts were made during the year to find some other kind of permanent employment for the Chenchus. Cultivation appears to be the ultimate solution of the problem of unemployment and plots of land near various villages were set apart for experimental cultivation; these it is hoped that the Chenchus will take over permanently.

It is now decided that the rewards to be given to Chenchus are to be rewards for general good behaviour, which will include not only abstaining from firing the forest themselves but turning out to extinguish fires which they or others may have started. It has been considered that payment on daily wages to Chenchus for work done in putting out fires which they themselves have started is wrong in principle. The District Forest Officer very practically suggests that the proper policy appears to be to make the Chenchu so weary of putting out his own fires that he will desist from firing. The only way to do this is to make it worth his while *at the time* to turn out, and to cut his reward at the end of the year if at any time he fails to turn out when called upon. Putting out fires is one of the most exhausting jobs possible and is extremely unpopular with all classes.

229. *Cultivation in reserved forests.*—In *Kurnool East* 84 acres and 1 cent were given to the Chenchus up to date free of assessment and 115 acres 47 cents on an annual assessment of two annas per acre. Thirty-eight acres were also given to the Sugalis for cultivation. These grants were made on the condition that they should help the department in extinguishing fires. In *Kurnool South* the four acres granted to the two Police talaiyaries and 20 acres to the cartmen near Chelama were not cultivated this year also. In *Kurnool West* the lease of the two plots of land in the Gadidamadugu reserve to the Christians of that place was renewed.

230. *Mining and prospecting.*—In *Gōdāvari Upper* a certain quantity of graphite was collected from the surface of the old Pedakonda graphite mines and sent to the Director of Industries at his request. It appears that the graphite is of too inferior quality for use in commercial pencil-making. In *Kurnool South* no work was done this year also on account of war. In *Kurnool West* Mr. Ghose was granted three prospecting licences to remove barytes from certain reserves in the Yerramalais. Copper has been located in Gani reserve and may possibly be worked in the near future. Mr. Ghose has applied for a monopoly in dolomite in the area near Betamcherla and Paniem.

231. *Realization of revenue from the usufruct of toddy-yielding trees on Government waste and poramboke lands.*—The total revenue was Rs. 44,701 against Rs. 40,019 in the previous year.

(c) Live and Dead Stock.

232. *Live-stock*—(*a*) *Elephants.*—The sick elephant in *Ganjām*, Hilda, died of heart failure. The health of the other elephants is reported to be generally good. The Special Veterinary Inspector attached to the Western Circle inspected all the

elephants except the two in *Gōdāvari Upper* in June 1917 and reported. He had to waste a good deal of time on his tour partly because he did not start when he was ordered to.

(*b*) *Bullocks and buffaloes.*—In *Kurnool East* the buffaloe which was purchased last year to carry water for the Chenchus of Chinnamantrala in the hot season was sold. In *Kurnool South* there were six bullocks at the commencement of the year. Two bullocks died on account of old age and the rest were written off the accounts, being unfit for work on account of old age. In *Kurnool West* there were ten pairs of bullocks at the commencement of the year, of which one died and another was killed by a tiger. Some of the remaining bullocks are being used for cultivation by the Chenchus.

Inventory of valuable stock.—Stock registers were maintained and verified in all the divisions.

Rain gauges.—Rain gauges were maintained and readings recorded in all the divisions. Two stations in *Gōdāvari Upper* were abolished as they were found unnecessary and two new stations in each of the *Kurnool East* and *West* divisions were opened.

(*d*) SUITS.

233. The appeal in the Privy Council against settlement of the Coringa Extension in *Gōdāvari Lower* was decided in favour of Government with costs. In *Kurnool East* a suit was filed in the District Munsif's Court, Markapur, against a ryot who refused to pay the cost of the logs he purchased in an auction sale. The case was decided in favour of the Government with costs.

234. *Classification of forests.*—The classification of reserved forests in all the divisions was completed. It was found that in *Gōdāvari Lower* certain reserves in the Peddapur and Gokavaram ranges had been wrongly classified and it is possible the same is the case in other districts.

235. *Panchayat system.*—In *Ganjām* preliminary work for the formation of panchayats for the Sondosolia reserve has been gone through, but there are matters to be discussed still with the local ryots before a plan is outlined. In *Gōdāvari Lower* proposals for handing over the Anantavaram reserves to the panchayats are pending with the Board. In *Kistna* five reserves were placed under panchayat management in July 1914 and the term of three years was over by 30th June 1917. The working of three reserves in the Bezwada range continued satisfactory. The panchayat of the Chintalapudi reserve was dissolved on account of continued unsatisfactory working. The working of the panchayat of Velagalapalli continued unsatisfactory and it was warned. The question of the formation of panchayats in *Kurnool South* and *West* is engaging the attention of both the Revenue and Forest authorities.

236. *Improvement of water-supply and grazing facilities in Government grazing grounds.*—In *Gōdāvari Lower* two tanks were repaired and a well was sunk; in other districts principally on account of financial stringency no such works were carried out.

237. *Opening small fuel coupes for rural supply wherever an effective demand exists or can be stimulated into existence.*—The wants of the people who live near forests are met by coupes sold to contractors, private forests and unreserved lands.

238. *Patrol system.*—The system has been introduced in all divisions except in *Gōdāvari Upper* and its working is reported to be generally satisfactory except in *Gōdāvari Lower* and *Kistna*. The District Forest Officer, *Gōdāvari Lower*, reports that the results of the system will have to be watched for another year and that, unless the staff is strengthened, the system cannot work well. In *Kistna* the existing system is not suitable as the reserves are scattered and its revision is under contemplation. In *Kurnool West* the system seems to have been exceptionally successful.

239. *Realizations of revenue from the usufruct of toddy-yielding trees on Government wastes and poramboke lands.*—Rupees 86,291 were realized against Rs. 74,589 of the previous year. The increase is due to larger amount realized in *Bellary* and *Anantapur*. *Central Circle*

RULES UNDER THE FOREST ACT.

240. *Timber Transit rules.*—The rules are in force in all districts except *Bellary*, *Anantapur*, *Nellore* and *Chingleput* and they are reported to have worked satisfactorily. The rules need to be extended in *Chittoor* district especially in Palmanēr range wherein sandalwood will soon become valuable, and the Conservator considers that such rules are desirable in all districts if efficient check of removals of forest produce is to be rendered possible.

241. *Rules under section* 26 *of the Forest Act*—have worked satisfactorily and there was no complaint or abuse brought to light.

242. *Inventory of valuable stock.*—The stock registers are reported to have been maintained and verified in all districts.

243. *Rain-guages* were maintained in all districts except *Anantapur*, *South Cuddapah* and *Chingleput*.

244. *Cultivation in reserved forests with a view to afforestation.*—Nothing was done in this direction during the year.

245. *Specimens.*—In *South Cuddapah* 59 pieces of red-sanders, Shorea Tumbuggaia and Shorea Talura were taken to Dehra Dun by the Imperial Sylviculturist for purposes of ring-counting. The President, Imperial Forest College and Research Institute, Dehra Dun, was supplied with the required red-sanders timber pieces for preparation of veneers. A Forest Bulletin No. 34 containing a note by Mr. T. A. Whitehead, formerly District Forest Officer of East Cuddapah, was published on the red-sanders tree.

In *Chingleput*, two varieties of myrabolams were sent to Forest Economist, Dehra Dun, for chemical examination.

The red-sanders piece sent from *East Cuddapah* to the Director of Industries, United Provinces, Cawnpore, for experimental purposes and referred to in the last report is dealt with in Chapter IV.

246. *Suits.*—The suit against a tangedu bark contractor of *Anantapur* referred to in the last year's report ended unfavourably to the department.

In *North Cuddapah*, the suit filed against the shrotriemdar of Musalreddipalle agraharam and referred to in the last report is still pending in the District Munsif's Court at Nandalur.

In *South Cuddapah*, the owner of the land through which a foot-path and a cart-track run to Kodur red-sanders plantation, has filed a Civil Suit against the Government in respect of these paths. The suit is pending in the District Munsif's Court, Nandalur.

In *Nellore*, the Raja of Venkatagiri has filed a suit in the District Court to obtain possession of a portion of the Nandanavanam reserve of Kanigiri range and it is pending. The shrotriemdar of Turravaripalem has filed a suit for the possession of compartment No. 29 of the Rapur Veligonda reserve. This area, though notified under section 4, has never been finally reserved under section 16. A survey of the block and of the surrounding topography has been completed recently and the suit will be taken up by the District Judge very shortly.

Two claims have been preferred to areas in the Udayagiri Veligonda reserve in the Udayagiri range. The Public Prosecutor has been consulted and the claim seems to be ill-founded.

247. *Live-stock.*—*Chittoor* is the only district of the circle where there is live-stock. One buffalo died during the year. Three are now maintained for gardening purposes at Horsleykonda.

248. *Mining.*—In *Bellary*, the mining lease granted to Mr. A. Ghouse of Dhone in 1914 for 30 years was surrendered from 27th January 1917 and the ore collected in the mine was forfeited to Government. An application for the grant of prospecting licence for ochre within the limits of Haragondona and Tumti villages, received from Mr. A. Ghouse, is pending disposal.

249. *Nellore mica and mica mines.*—During the year the supervision and control of the special mica establishment was transferred from District Forest Officer to Collector.

Applications.—Twenty-four applications were pending at the commencement of the year and 99 were received during the year, making a total of 123. Sixty-three applications were disposed of and 60 were pending at the close of the year.

Mines in Government lands (State mines).—The number of mining leases in force at the beginning of the year was 46 (and *not* 39 as reported in the last year's report). There were two fresh grants and four relinquishments during the year.

Prospecting licences.—The number of licences in force at the close of the year was 13. There were 12 relinquishments, 1 renewal and 6 applications for conversion into mining leases during the year.

Patta land mines (shared mines).—The total number on the roll at the end of the year was 27. There were two relinquishments and four fresh grants during the year. The mines in which the yield has been considerable and which have paid during the year, royalty of over Rs. 500 to Government are the following :—They are arranged according to the quantity consigned from them. The Lakshminarayana mine worked by Messrs. F. F. Chrestian & Co., heads the list, having paid the handsome amount of nearly Rs. 4,000 to the Government in the shape of royalty. The rest of the mines in their respective order are the 'F' mine of Messrs. W. A. Beardsell & Co., 'Pattabhirama' of Y. Ademma, 'Tellabodu' of Messrs. W. A. Beardsell & Co., 'Seetharama' of the Sankara Mining Syndicate, 'Shah' of Messrs. Badsha Sahib & Co., 'Kubera' of V. Lakshminarasiah and 'Pallimitta' of Messrs. Badsha Sahib & Co. These are all old and long established mines and the yield from them has been more or less steady.

Mines in permanently-settled estates (private mines).—There were 23 mines in the shrotriem and zamindari lands, yielding 215,223 lb. of mica valued at Rs. 1,34,349. The 'Kalichedu' of Messrs. F. F. Chrestian & Co. of Rāpur taluk and the 'Sankara' and 'Gouri' mines of Gudavalli Brahmayya of Gudur taluk are the best.

Illicit mining.—There were no cases of illicit mining during the year under report.

Outturn and royalty.—There has been decrease in the yield of mica as noted in the margin and is due to slackness of work on the part of miners owing to shortage of money and freight and other abnormal conditions on account of war. No other mineral was worked.

Years		Quantity.		Royalty.
		LB.	OZ.	RS.
1915–16	...	505,037	3	15,985
1916–17	...	417,022	7	15,207

Financial results.—The revenue realized was Rs. 19,109 against Rs. 21,468 of last year and the expenditure Rs. 6,911 against Rs. 6,042. The decrease is due to less outturn of mica.

Labour.—One thousand nine hundred and eighteen persons were employed in mining against 1,879 of previous year. Wages continued to be the same as in last year.

Accidents.—There were three accidents, one in 'Sidheswara mine' in which a man was seriously injured, another occurred in Tatiparthi village in Atmakur taluk which resulted in the death of a boy and the third occurred at 'Tellabodu' mine in which one man was slightly injured in the eye.

Ventilation and lighting in tunnels.—Satisfactory in the absence of any remark by Inspector of Mines.

Inspection by superior officers.—The Inspector of Mines visited most of the important mines. Divisional Officer, Kavali, inspected three and Divisional Officer, Nellore, one. The District Forest Officer inspected a few mines in Gudur and Sydapuram.

Prospect of industry.—Miners and local buyers of mica fight shy of enquiries about market prices as they seem to think that enquiries are made with a view to raising the schedule values of mica. The demand for mica has been high and prices have been very handsome ranging between 45 to 70 per cent above the schedule rates for better quantities of size mica. Rounds and films are just now at a discount as the demand is low. Waste mica for which there was some demand two years ago has not been sold at all for the past two years. In spite of the market being so encouraging, miners have not worked as briskly as they might have done, owing to shortage of money and freight and other abnormal conditions consequent on the war.

Recommendations of the Forest Committee.

(*a*) *Classification of forests.*

250. The classification is complete in all districts except the newly reserved Yerrakonda Extension II the classification of which is under correspondence. Some revision was sanctioned in the classification of all districts except the three divisions of Cuddapah, and they have been approved by Board (vide B.P. Forest Nos. 27, dated 1st March 1917, Mis. 195, dated 22nd June 1917, Mis. 46, dated 14th February 1917, Mis. 245, dated 15th August 1916, No. 51, dated 1st May 1917, and Mis. 288, dated 30th October 1916. Further revision of the classification made will still prove necessary in some districts.

(*b*) *Constitution of forest panchayats.*

251. During the year eighty panchayats were formed in *Bellary*, one in *Anantapur*, thirteen in *Guntur*, two in *West Cuddapah* and eighteen in *Chingleput* districts. The working of all except one or two in *Guntūr* is reported to be generally satisfactory. Fifteen panchayats were renewed in *Guntūr* and thirteen panchayats were renewed in *West Cuddapah* during 1916–17 and they are reported to work fairly well.

(*c*) *Opening of fuel coupes for rural supply.*

252. Coupes have been opened wherever there is local demand and they were sold to contractors as usual for felling. The working of this system is satisfactory. In *Nellore* it is reported that there seems to be no demand for some of the fuel coupes and in several cases where they have been provided for they have remained unsold.

(*d*) *The patrol system.*

253. This system is in vogue in three Cuddapah divisions only and the working is reported to be satisfactory. The system introduced in *Bellary* last year was abandoned as it has been proved unsuitable. In *Guntūr*, the system was not tried during the year.

(*e*) *Inducement to villagers to aid in forest conservancy.*

254. The kancha system of grazing has already been introduced throughout *Nellore*. During the year the system has been also introduced in *Chingleput*. In *Nellore* free removal of grass was allowed in the Veligonda and Yerrakonda reserves. In *North Cuddapah* and *West Cuddapah* the grazing fees for certain reserves were raised as the villagers failed to render help in putting out fires.

(*f*) *Improvement of water-supply and grazing facilities in Government grazing grounds* (*B.P. Forest No.* 125, *dated* 29*th June* 1914).

255. In *Anantapur*, two existing wells were repaired. In *Guntūr*, six existing kuntas were repaired for the benefit of the cattle. In *Nellore* the ponds in kancha areas were repaired and improved. In *Chingleput* concession was granted to a philanthropic ryot of Kattugudalur to repair the Konjiliamman tank in Kattugudalur reserve. Nothing was done in this direction in other districts.

(*g*) *Sale of plantations.*

256. In *Guntūr*, 634 acres in Bapatla, Ipurpalem, Kanuparti, Kothapatam and Nizampatam Casuarina plantations were sold. In *Nellore* district 622 acres of plantations lying fallow and 492 acres of Dugarajapatam plantation were sold. 308·09 acres of plantation in Kuthambakkam reserved forest in *Chingleput* district were also sold.

General.

257. The Conservator cannot close this report without once again urging upon the Board and Government the imperative necessity of completely reorganizing the whole controlling, executive, protective and clerical establishments of the Forest Department in the Presidency. That such re-organization has long since become

overdue is a fact which is not, in the writer's opinion, open to dispute; and the fact has been recognized more or less both by the Board and Government in the remarks which one or other authority has been pleased to make when reviewing the Annual Administration reports for the past fifteen years.

In B.P. Forest No. 53, dated 12th March 1912, the Hon'ble Mr. W. O. Horne who was then Commissioner of Forests wrote as follows :—

"In B.P. Forest No. 76, dated 16th April 1907, the Board submitted proposals which included the controlling and clerical staffs, as well as those now dealt with, and those proposals were summarily rejected by Government in G.O. No. 2394, Revenue, dated 27th September 1907, on the ground that the Government were not convinced that such large increases were necessary. The Government then directed that the matter should be further considered by the Board with a view to reducing the proposed increases within more moderate limits. Subsequent to that date the controlling staff has been strengthened and reorganized, so that it is now in a condition very much more fitted to cope with its work; but, beyond converting a large number of temporary appointments into permanent, and beyond sanctioning at intervals a few additional range officers to man newly constituted ranges, nothing has been done to strengthen the executive and protective staff of the department, which remains for all practical purposes what it was in 1907. The revenue of the department in 1906–07 was Rs. 32,90,652 and the expenditure Rs. 24,80,662. The corresponding figures in 1910–11 were Rs. 38,80,411 and Rs. 32,25,800.

"Even if the proposals of the Board in 1907 were in excess of requirements, a question which it now serves no purpose to discuss, it is beyond doubt that even then some considerable increase of strength was needed, and it is a fact that practically none was effected, since the conversion of temporary appointments to permanent and the subsequent creation of a few new appointments for new charges cannot be regarded as an increase. In the five years which have elapsed since 1907 the state of affairs has not improved, and it is now necessary to face the facts or to acquiesce in the indefinite continuance of a state of inefficiency. The matter has closely occupied the attention of the Board for the past eighteen months. It is sufficient to state that, as the Government are well aware, rangers' charges are commonly so large that they cannot do their work, and cannot fairly be blamed for not doing it, that range officers are inadequately provided with trained subordinates able to assist them in executive and technical work, and that guards are so sparsely distributed and have such large beats that it is impossible for them to protect the forests and impossible for their superior officers to enforce their responsibility. Further, and this is perhaps the greatest weakness of all, the sanctioned staff of rangers is insufficient to keep manned even the limited number of excessively large ranges. Vacancies caused by leave, deputation, suspension, training, etc., cannot be filled, and ranges have to be put in charge of incompetent deputy rangers or even occasionally of foresters, while always some ranges are without any range officer at all and are looked after by a neighbouring ranger or by a junior member of the controlling staff, who is thus taken away from his own proper duties, or by any makeshift which can be devised. The same is the case with deputy rangers. In the first place, even were they all present, there are not enough of these officers for the work which they ought to do, and the number of foresters fit to act as deputy rangers is not in the least adequate to supply the places of those who are absent on leave, training, in charge of ranges, or from any other cause. The work of the department is thus kept in a constant state of struggling inefficiency, current work falls into arrears, working-plans are not worked up to, and progress is almost impossible."

In paragraph 4 of the same Board's Proceedings Mr. Horne also showed from the actual number of rangers and deputy rangers absent from duty from all causes for six separate consecutive months, that the average was no less than 25 per cent of rangers and 29 per cent of deputy rangers absent on leave (mostly on account of ill-health), deputation, training, suspension, etc.

The above correctly described the state of the forest establishment at that time: since when, and it is now more than five years ago, nothing has actually been done to come to the rescue of the department. Conservators have been called upon time after time and have submitted what in their considered opinion was necessary in the

way of increased establishment, and improvement in the matter of pay and prospects of the subordinates of the department. Conferences have frequently been held by the Forest Commissioner with the Conservators of the Presidency, but up to date the department stands where it did at the time Mr. Horne wrote of it in 1912, only matters have of course become considerably worse, and the ever increasing "constant state of struggling inefficiency" referred to by Mr. Horne has only become more marked than ever.

How is it possible that the work of the department can be carried on efficiently or any permanent and useful progress made under such disheartening conditions? It cannot be. The Conservator therefore very earnestly desires once again to respectfully invite the serious attention of the Board and Government to the present most unsatisfactory state of affairs and to urge the essential necessity of reorganizing the whole forest establishment without further delay. It is, the writer believes, now universally acknowledged that very great expansion is ahead of the Forest Department in India, and although forest officers, as all others, fully recognize that no large funds can be provided during the terrible war which is now raging throughout the world, nevertheless it behoves all to see, as far as in their power lies, that every preparation which can be made *is* made, so that the department should be placed with the least possible delay in a proper state of organization not only to cope with its present multifarious duties, but also to meet the progress and expansion which will certainly be expected of it. The state of affairs is, in the writer's opinion, becoming more desperate every year, and nothing short of a complete and generous reorganization of the whole controlling, executive, clerical and protective staffs will meet the position. The department has certainly earned such reorganization by its own dauntless efforts in the face of enormous difficulties and the Conservator desires to urge upon Government the necessity of fully recognizing this fact and of now acting generously towards it before it becomes too late.

Copy of endorsement of E. A. Davis, Esq., I.C.S., Collector of Guntūr, on the Forest Administration Report of the Guntūr district for 1916–17.

Forwarded.

(2) There is still much to be done in the way of disforestation in this district. This remark not only applies to whole reserves like Lam and Kuragallu, black soil areas suitable for cultivation, but also to portions of some of the larger blocks, especially the extensions, where large areas which went out of cultivation during a succession of bad years are now again in demand. A thorough revision of boundaries is therefore necessary in the case of the Sattenapalle, Palnad and Vinukonda ranges. Of course it is not proposed to give up areas of potential value for timber due to the presence of Hardwickia; but a judicious selection of areas for exclusion like the Kakirala extensions recently made over to the Lambadi settlements would be of distinct benefit to the administration. For they must eventually be given up, so that the time, labour and money spent on them as forest now will afford best return. An example is afforded by the Kolakalur reserved forest on which Rs. 290 out of the small amount available for this district was spent on demarcation last year. This reserved forest is now to be disforested and the expenditure is a dead loss. Similarly the time and labour spent on the preparation of working-plans for this kind of area will to a great extent be wasted. This being the case, it is recommended that no further expenditure be incurred on blocks at all doubtful of retention; and that capital expenditure and the preparation of preliminary working-plans should be rigidly confined to the main blocks pending a thorough rectification of boundaries.

(3) The absence of working-plans and proper stock maps has no doubt largely contributed to the failure of the forests in this district to show results commensurate with the time they have been under reservation. The fact that a large revenue was derived from grazing together with the operations connected with coastal plantations seem in some measure to have handicapped the development of other possibilities. Consequently the forests are badly equipped for exploitation and markets have yet to be opened up. From this point the expenditure on communications and buildings must be regarded as wholly inadequate. It would be a good thing to develop communications more especially in the forests along the proposed alignment of the new Palnad Railway and in the Vinukonda range so as to take advantage of the line

directly it is opened for opening up the markets for fuel in Guntūr and Bezwada, which are now partly supplied from the Nallamalais. The possibilities of river transport might also be considered, even if it involves giving coupes on concessional rates for a few years.

(4) The District Forest Officer has done good work in explaining the forest system in villages visited by him and I hope it may be possible for some development to take place on these lines. There must however be a certain amount of give and take in any arrangements made, and I should like to see District Forest Officers given greater power to confirm arrangements made by them on the spot. The inability to come to confirm an arrangement at once is a great handicap, especially in a large district like Guntur. Some progress has been made in the selection of 'open' and 'closed' areas; and when that has been completed, it will be easier to consider the whole subject of grazing. In the absence of complete stock maps, the incidence of grazing on the grazeable area must be somewhat speculative; and in spite of the District Forest Officer's remark that the incidence is now normal in this district it is open to doubt whether the grazeable area is not overgrazed.

(5) The form in which the accounts are now presented is very misleading as to the financial results of the working of the Forest Department proper. Revenue includes indiscriminately such items as receipts on account of trees on darkhast lands and the tapping fees, over which the department has little or no control, and also such items as the proceeds of the sale of disforested lands, which item comprises both capital expenditure recouped and revenue (deferred and current). Expenditure similarly includes that on both capital and revenue accounts. It will never be possible to gauge the financial results of the actual working of the department in a given area until the system of accounting is revised so as to show separately receipts and expenditure on capital and on revenue account and also to divide revenue derived from the working of the department from that originating in adventitious outside sources. This should be quite feasible without altering the system so far as final debits and credits in the provincial accounts are concerned. Were this done, the real progress of the department from year to year could be estimated. As it is, the financial result as illustrated by the surplus from this district is wholly illusory whether as a test of progress in this district or as a basis for future estimates of revenue for the Forest Department as a whole; nor is it possible to judge effectively of the proportion of expenditure to real revenue. The proportion in this district, however, seems to be dangerously low.

(6) A separate report will be sent on the working of panchayats, as I have not the inspection reports with me and do not wish to delay the administration report. I agree, however, with the District Forest Officer that the panchayats have in general worked satisfactorily.

(7) The establishment for the district is insufficient and a working-plans officer is really necessary to put the organization of the forests on a satisfactory basis. It must however be realized that expenditure on this purpose would not afford a return so quickly here as in some other districts; and in view of the present shortage of men and the financial stringency, I do not press the matter so urgently as I might otherwise do. The needs of this district both for staff and capital expenditure are however deserving of consideration as soon as conditions change.

258. *Realization of revenue from the usufruct of toddy-yielding trees.*—The revenue realized from this source was Rs. 14,763 against Rs. 14,308 in the previous year. The fixed fee system continued to be in force except in Madura and Tinnevelly. The usufruct of trees not taken up under the fixed fee system was as usual leased out in South Salem and realized Rs. 2,740 against Rs. 3,099 in the previous year. *Southern Circle.*

259. *Measures adopted to encourage the growth of manure-leaf yielding trees and shrubs.*—No operations were undertaken by the department in this direction. In North Vellore attempts were made by the ryots in certain villages of Cheyyar, Wandiwash and Gudiyattam taluks to raise crops of Daincha and Cassia siamea with fair results. The District Forest Officers of South Salem and Trichinopoly who ought to be interested in this question have again failed to report what has been actually done though it is known that the ryots in these districts are taking steps to grow their own green manure.

Steps are, however, being taken in most districts either to stop or restrict the practice of cutting the trees of the reserves to supply this produce.

It is regrettable that the practice of cutting the Cassia auriculata shrub for green manure has not been stopped now that the bark is so much in demand for tanning hides required by the War Office.

260. *Grant of cowles for the formation of casuarina plantations in sandy areas.*—Nil.

The planting of casuarina and cashew in the disafforested lands in South Arcot continues to be satisfactory.

261. *Cultivation in reserved forests.*—Previous year's leases were renewed in West Vellore, North and South Salem and Trichinopoly. In North Salem about 100 acres of lands were demarcated out during the year in Gothinatham in Gulhatti reserved forest for assignment for cultivation to some of the ryots of Tholuvabetta and Gulhatti with a view to the protection of sandal in those villages. The lands on the Palnis in the Madura district continued to be cultivated under muchilkas with cardamom, coffee and plantains.

262. *Improvement of water-supply in State forests.*—Bunding work was continued in North Vellore and streams in three reserves were bunded at a cost of Rs. 593. Similar work was entrusted to the Malayalis of the Chitteris of South Salem who were given the sum of Rs. 250 for the bunding of the main stream in those hills.

Tanks were repaired in the South Arcot and Trichinopoly districts and the water-supply of the Andipatti reserve in Madura improved.

Tube wells were started in three villages in South Vellore, but though the department is anxious to spread the tube well throughout the Javadis, very little work was actually carried out by the Agricultural Engineering Department who are in charge of the boring work.

263. *Supply of forest produce to meet the wants of the people.*—Departmental coupe contractors supplied the wants of the people at reasonable rates as usual in accordance with the terms of their agreements. The issue of permits for babul trees for agricultural requirements was continued as usual in Tinnevelly. In North Salem, the coupes are too few and far between to enable people to get what they want from reserves. Steps are being taken to reduce the size of the coupes and increase their number. Most of the requirements are met from patta lands and unreserves.

264. *Sale of fuel at the edge of forests* was attended to by coupe contractors.

265. *Arrangements for the transfer of sale depots to private agency.*—The contractors have opened depots in almost all the important towns and villages.

266. *Free removal of grass.*—This has already been referred to in paragraph 31 supra. In South and West Vellore the concession was permitted from December to March.

267. *Hill tribes.*—The Malayali forest village system has been successfully established in the South and West Vellore divisions and the Malayali co-operation is entirely responsible for the carrying out of the works provided in the sandalwood working-plan. Periodical darbars were held to educate the Malayalis who appreciated the forest village system. This system has not yet been introduced into the North Vellore division, where the Malayalis are assisting in fire protection in return for grazing concessions.

In the Chitteris of South Salem the Malayali village system continues to work well, but on the Kalroyens where the Government reserves are mingled with Jaghir Forest, the Malayalis are instrumental in assisting sandalwood smugglers.

In the Kollimalais of Trichinopoly a start has been made to introduce the Malayali village system but the system has not yet been brought into effect.

The Kanis in Tinnevelly deserted to the adjoining Kottalamalai and Singampatti estates as they were refused lands for kumari cultivation.

268. *Prospecting licences.*—No licences were granted during the year. The licence granted to Messrs. Gaudart & Co. for prospecting for minerals in the Ponniar reserve was cancelled.

269. *Timber and sandalwood transit rules.*—The rules are said to have worked satisfactorily in those districts where the rules were in force.

Two cases under the sandalwood transit rules have been brought to court in South Vellore and two in each of the districts of South Salem and Trichinopoly. The absence of rules in South Arcot has undoubtedly led to smuggling from the adjoining Kalroyen Hills. In the North Arcot district there is a tendency on the part of merchants to set up stills outside the protected area, and this coupled with the fact that the tree is spreading in the North Vellore district calls for the introduction of transit rules in that division.

270. *Rules under sections* 26 *and* 32 *of the Forest Act.*—The rules are reported to have worked satisfactorily and no complaints were brought to notice except from Attur range in South Salem division where large quantities of fuel were being smuggled in by the Paraiahs of Attur from the Paithur unreserves.

271. *Control of unreserves by the Forest Department.*—The transfer to the Forest Department of the Land Revenue Administration of certain hill villages in the Tiruppattur Javadis was effected in the course of the year and a similar transfer in respect of the unreserves in the Yalagiris is under consideration.

272. *Rules regarding the levy of composition fees.*—Attention was paid to the rules on the subject.

273. *Arrangements made in holding the villagers adjacent to particular forests responsible for the protection of those forests by dividing the village and blocks of forests concerned.*—This question has been treated under the heading of "Hill tribes." In all the northern districts of this circle the forests are inhabited by hill tribes and until a village system has been introduced for all these hill forests, no progress can be made in dealing with the low landers.

LIVE AND DEAD STOCK.

274. *Inventory of valuable stock.*—Stock registers were maintained in all districts and verified at inspections. The total value of the dead stock in the circle at the end of the year was Rs. 3,84,001 as against Rs. 4,30,558 in the previous year.

275. *Rain gauges.*—Readings were recorded in all the rain gauge stations.

276. *Specimens.*—Specimens were sent to the Director of Industries from North Vellore, South Arcot, Madura and Tinnevelly. These specimens were chiefly connected with the pencil industry.

Some specimens of Erythroxylon monogynum, false sandalwood, are being tested by sandalwood merchants for their oil value.

Several specimens have also been sent to the Gass forest museum. On a call from Messrs. Chambers & Co., Anogeissus leaves for Tanning purposes were sent and declared to be of no value. After the close of the year the Conservator, through the Tanning Conference at Dehra Dun, learnt how these leaves should be prepared and dealt with. The powder prepared from the young leaf properly dried is known as "Esociet Sumac." Specimens of this sumac prepared in Madura have been roughly tested by Mr. Pilgrim, tanning expert, and found to contain a far larger percentage of tannin than the bark of the well-known Cassia auriculata.

PREVIOUS YEAR'S SUITS.

277. *North Vellore.*—The boundary dispute in Gundlapalle reserve was decided in favour of Government.

South Salem.—The question of the ownership of the range of hills known as the Neiyamalais and the adjoining hill and valley in the Salem and Attur taluks has been decided in favour of the mittadar.

Trichinopoly.—The second appeal preferred by Arunachala Reddi to the High Court ended in favour of Government. The suit filed by the Kulittalai pattadar is still pending disposal in the District Munsif's Court.

Madura.—The appeal preferred by Government against the District Court's decision in the suit by a tank-bed contractor was decided against the Government.

Tinnevelly.—The Kuttalam waterfall appeal is still pending in the Privy Council.

New suits.

278. *Madura.*—The sale of encroachment lands and patta lands on muchilkas have brought about two new suits during the year—one filed by D. P. Rama Rao for lands included in Kallar reserve, Palni range, and the other filed by K. Peddan Chetti and others for lands in Amburuvi reserve in Kodaikānal range.

In the former the plaintiff's contention is that the lands advertised for sale are not encroachments but lands assigned to him on patta at the time of the forest settlement. In the latter it is contended that as the lands were given to the plaintiffs on patta by the Revenue Department, the Government have no claim to reserve these lands or to compel the plaintiffs to take them on muchilka. The cases are still pending.

Forest Committee's Report.

279. *Classification of reserves.*—The reclassification of reserves in South Arcot was finally sanctioned during the year thus completing the classification for the circle.

Panchayat system.

280. *North Vellore.*—The 33 panchayats formed for ten reserves were dissolved by the Board on account of several irregularities committed in connexion with their formation and fresh panchayats were sanctioned after the close of the year.

In *South and West Vellore, North Salem and Madura* no progress has been made, but in these districts there are very few reserves placed in class V.

South Arcot.—In addition to those of last year panchayats were sanctioned for six reserves for the current year.

South Salem.—Panchayats have been formed for all the class V reserves except four.

Trichinopoly.—Panchayats were formed for 27 out of 36 reserves.

Tinnevelly.—Besides the three reserves which were handed over to panchayats in the previous year, the formation of a panchayat for Sivalaperi reserve was sanctioned during the year.

281. *Patrol system.*—The system was continued in North Vellore, South Arcot and South Salem and introduced in one range in Trichinopoly. The system is undoubtedly sound but want of establishment prevents it becoming a real success.

282. *Establishment.*—The cry for extra establishment is universal. Ranges cannot be properly manned, subordinates cannot be properly supervised and even pressing work cannot be carried out. Year after year work is expanding and during the current year we have been confronted with three works of the greatest magnitude—

(1) Supply of timber from the evergreen forests.
(2) The control of tan stuffs.
(3) Spike disease.

All of these works demand the strictest attention and lakhs of rupees of revenue are involved, but the development of work is rendered impossible by the paucity of establishment.

Western Circle.

283. *Realization of revenue from the usufruct of toddy-yielding trees, etc.*—The revenue realized from this source was Rs. 1,124 against Rs. 1,240 in the previous year. The *Mangalore* divisions, *Kollegal, Central* and *South Coimbatore* contributed to this. The amount differs from that credited under II (*f*) which was due to wrong classification.

284. *Measures adopted to encourage the growth of manure-leaf-yielding trees and shrubs.*—No measures were taken nor were any required as except in *North Mangalore* the requirement is met from private lands.

285. *Supply of forest produce to meet the wants of the people.*—As in previous years the concession of free removal of grass for thatching and fodder was continued in *Mangalore* divisions; there was no abuse. Timber and bamboos were sold by public auction in the *South* division. In *Malabar*, the supply from private forests and

lands was adequate for the local demand. In the *Nilgiris*, small timber, fuel and bamboos, were, as usual, removed on permits. The Badagas obtain fuel at the nominal fee of Rupee 1 per house for the year. The public of Ootacamund were supplied with firewood from the plantations while that of Coonoor and Wellington had this privilege suspended temporarily, the stock of firewood being inadequate owing to the increased demand by the Military Department. Removal of brushwood at one anna per headload from the areas under felling was allowed. *Kollegal*—Small timber and bamboos were retailed departmentally at the time of plague for the construction of a health camp. The demand for firewood except in *Kollegal* town was met from unreserved lands; the supply of *Kollegal* town was made by contractors who purchased fuel from the department. The supply of forest produce in the other divisions of *Coimbatore* was left to contractors and there were no complaints. The demand for small timber and agricultural implements in *North Coimbatore* was met by retail sales from forest depots. Brake-poles were felled departmentally and sold to the cartmen frequenting the ghat roads in *North* and *South* divisions. The gleaning of brushwood in headloads from coupes under felling was continued in the *Central* division.

286. (*a*) *The working of the Forest panchayats—Reserved forests.*—During the year two reserved forests in *South Coimbatore* aggregating 1,564·29 acres were placed under panchayat management. The areas managed by panchayats are given below :—

District.	Number of reserved forests managed by panchayats.	Area in acres.	Assessment imposed.	Number of panchayats managing the areas.
			RS.	
Mangalore North	1	89·34	..	1
Central Coimbatore	7	* 4,441·25	1,074	12
South Coimbatore	6	3,438·83	485	3
Total ..	14	7,969·42	1,559	16

* Revised figures furnished by the District Forest Officer.

Reserved forests.—In *Mangalore North*, the panchayat is reported to have worked well and improved the forests. In *Central Coimbatore*, most of the forests were overgrazed. Otherwise the panchayats have generally managed satisfactorily and maintained accounts. Certain areas were cleared of prickly-pear and lands were ploughed to facilitate the growth of grass and certain areas were sown with seeds of Kolukkattai grass. In *South Coimbatore*, the Dalavoypatnam panchayat is reported to have managed the forests satisfactorily, improved the water-supply, removed prickly-pear and repaired cart-tracks and paths. The panchayat for Uthiyur forest improved its management during the year. The third panchayat was only formed at the close of the year. *Unreserved lands.*—Two small pieces of unreserved lands near Udipi and Karkal in *Mangalore South* and the Andiyur and Nagalur unreserves aggregating 3,567 acres in *North Coimbatore* were under the management of panchayats; nothing is mentioned about the working of the former while that of the latter is reported to be far from satisfactory.

(*b*) *Opening of small coupes for rural supply wherever an effective demand exists or can be stimulated into existence.*—In *North Coimbatore* one fuel coupe near Kottamangalam was opened at the close of the year. An attempt to open a coupe of 10 acres near Hassanur for supply of small agricultural implements failed for want of demand. There was no demand for such coupes in the other divisions as the coupes sold to contractors, private forests and unreserved lands met the wants of the people.

(*c*) *Measures adopted for improving the water-supply in Government grazing grounds and the facilities for grazing and pasturage.*—No measures are required in the West Coast districts and in *the Nilgiris*. Nothing was done in *Kollegal* and *North Coimbatore* owing to the financial restrictions and in *South Coimbatore* pending settlement of grazing schemes. In *Central Coimbatore* the forests are within easy reach of the villages from which cattle resort for grazing.

(*d*) *System of patrol by a gang of subordinates.*—The system which was introduced last year in one of the ranges of *Central Coimbatore* as a tentative measure is reported to have worked successfully and resulted in the better protection of

forests. It is not required in *Malabar* and in the two ranges of *South Coimbatore* and was not introduced in the other divisions owing to the paucity of establishment. The Range officers of Pollachi and Udumalpet in *South Coimbatore* are reported to have made some patrols with success.

287. *Grant of cowles for the formation of casuarina plantations in sandy areas.—Nil.* Such areas are uncommon in this circle.

288. *Rules under the Forest Act—*

(*a*) *Timber transit rules.*—The rules in *South Kanara*, *Malabar* and *Coimbatore* are reported to have worked satisfactorily.

(*b*) *Rules under Section 26 of the Forest Act.*—The rules are reported to have worked satisfactorily with no abuse of the privileges. Out of 489 acres of unreserved lands that remained under the control of the Forest Department in *North Malabar*, 81·64 acres were transferred to the control of Revenue Department.

(*c*) *Other rules.*—The sandalwood transit rules in *South Kanara*, *Kollegal* and *North Coimbatore* and the shooting and fishing rules in the *Nilgiris* generally worked well. It is reported that the transit rules have not done very much towards checking thefts from Government unreserves in *Mangalore North.*

289. *Hill tribes.*—The *Kudubies* in *Mangalore North* and the *Mahratties* in *Mangalore South* supplied labour for departmental works and were in return given lands for *kumri* cultivation. The *Kurumbers* in *North Malabar* were given, as an inducement to live in the forests, 88 acres in two ranges for tuckle cultivation free of assessment on condition of their having the areas sown with teak seeds. The experiment was a failure in one of the ranges owing to laxity of departmental supervision but in the other it was fairly successful. The *Mulcer* watchers in *South Malabar* were given house-sites and lands for cultivation. In the *Nilgiris*, while it is easy to get *Kurumbers* as elephant attendants, the difficulty of securing them for departmental labour continued. They prefer to work on private estates where both sexes earn good wages. The *Kasuba* settlement at Anaikatti was continued but the settlers proved troublesome having failed to assist in fire protection and connived at sandal thefts and consequently the headman of the settlement and some others were evicted. The *Irulars* who cultivate lands in the eastern and southern slopes were not useful in the matter of supply of labour. The *Sholagar* settlements in *Kollegal* and *North Coimbatore* were continued ; the extent of land granted for cultivation free of assessment in the latter division is reported to be 1,356 acres. The hill tribes (*Irulars*) in *Central Coimbatore* continued to supply labour and were granted lands to the extent of 946 acres for cultivation free or on payment of nominal rent. In *South Coimbatore* twelve *Puliya* families were located at Lower Punachi to provide labour and 24 acres were assigned to them for cultivation free of assessment.

290. *Cultivation in reserved forests.*—The undermentioned cultivations were permitted in reserved forests besides those referred to in paragraph 64. Tenant-at-will leases covering 5·90 acres on an annual rent of Rs. 6–2–11 in *Mangalore North* and 15·19 acres with a rent of Rs. 13–4–0 in *Mangalore South* were granted. In *North Malabar* 256 and 544 acres for ponam and wet cultivations respectively were leased out. *South Malabar.*—The annual lease of 4 acres in old Amarampalam reserved forest for paddy cultivation on an annual rent of Rs. 10 was renewed. The lease of Kariari and Talikolli paddy fields—120 acres—in the new Amarampalam reserve was in force. Three Chetti families were licensed to reside in and cultivate land free of assessment (extent not reported) in Benne reserved forest in the *Nilgiris*. The lease of lands for coffee planting in *Kollegal* and the grant of 169 acres for cultivation in Gutialattur and North Burghur reserved forests in *North Coimbatore* continued. *Central Coimbatore.*—The lease of 84·84 acres in Chennimalai reserved forest free of assessment for a period of 30 years for a Panchama settlement was in force. *South Coimbatore.*—Leases of lands on the Anamalais for cultivation of plantation products continued. Fresh leases were not granted during the year pending settlement of the question of forming Cinchona plantations on the hills.

A proposal to transfer the management of the Anamalai Township to the Revenue Department was pending approval of Government and was sanctioned after the close of the year.

Live and Dead Stock.

291. (*a*) *Elephants.*—The capturing operations were carried out in *Malabar*, the *Nilgiris* and *South Coimbatore* and were extended to the Silent valley in *South Malabar* during the year. Twenty-one elephants were captured during the year and there were five births; seventeen were sold for Rs. 31,700, one was destroyed on account of infirmity and nine died; the number that remained at the close of the year was 104. The condition of the animals was generally good. The number of deaths included three young calves of which one died of poisoning, one from anthrax and one of injuries sustained in pit, three deaths from dropsy, one death from anthrax, one of general debility and one of cause not known.

(*b*) *Other live-stock—Bullocks.*—The casualties of the year were—two in the *Nilgiris*, condemned and destroyed; one in *South Coimbatore* was sold; one died from an accident and six of old age. The balance was reduced to 45. *Buffaloes*—Twenty buffaloes were purchased; four were sold and four died; the number remaining at the close of the year was 69 against 57 at its commencement.

(*c*) *Veterinary establishment.*—Mr. F. X. Mascarenhas made his usual inspections and treated the live-stock. There were no important operations. His work continued to be satisfactory. The Assistant Inspector who is attached to *South Coimbatore* is reported to have worked satisfactorily.

(*d*) *Inventory of valuable stock.*—Stock registers were maintained and verified at inspections. The value of live-stock and stores at the close of the year was Rs. 3,36,894 and Rs. 3,92,398 respectively.

292. *Rain-gauges.*—Maintained and recorded. One gauge in *Central Coimbatore* and another in *North Coimbatore* were not read for one and three months respectively, the bottles having been broken.

293. *Suits.*—The Thirumalpad of Nilambur preferred a second appeal to the Madras High Court against the award passed for the acquisition of Mudumalai and Kumbarakolli leased forests and it was disposed of in favour of the appellant by increasing the award by Rs. 8,050. The second appeal of the lessee of the private forests in the Attapadi valley referred to in the previous year's report was dismissed with costs. The civil suit against a timber contractor in *South Coimbatore* referred to in the last report was adjudged in favour of Government.

H. A. LATHAM,
Conservator of Forests, Northern Circle.

H. B. BRYANT,
Conservator of Forests, Central Circle.

P. M. LUSHINGTON,
Conservator of Forests, Southern Circle.

C. D. MCCARTHY,
Conservator of Forests, Western Circle.

ADMINISTRATION REPORT OF THE MADRAS FOREST COLLEGE, COIMBATORE, FOR THE YEAR 1916-17.

CHAPTER I.—CONSTITUTION.

(1) *Staff.*

The office of Principal was held by Mr. C. E. C. Fischer from 1st July 1916 to 20th May 1917 and by Mr. F. L. C. Cowley-Brown from 21st May 1917 to the end of the year.

The posts of First and Second Imperial Instructors were held by Messrs. C. B. Dawson and H. C. Bennett, respectively.

Mr. E. M. Crothers was First Provincial Instructor throughout the year.

Mr. Cornwell, Extra Assistant Conservator, was the Second Provincial Instructor from the beginning of the year up to 18th November 1916 from which date he went on privilege leave and eventually vacated his appointment on the staff to join the I.A.R.O. as second lieutenant. He was succeeded by Mr. W. C. Hart, Extra Assistant Conservator.

The two posts of Sub-Assistant Surgeon attached to the College were held by V. Ramunni Nayar from 1st July 1916 to 26th October 1916, R. Venkatasesha Ayyar from 4th Sepember 1916 to 7th June 1917 and K. Natesa Ayyar from 16th November 1916 to the close of the year. One of the posts was vacant from the beginning of the year to 3rd September 1916, 27th October 1916 to 15th November 1916 and from 8th June 1917 to 30th June 1917.

These officers lectured on Hygiene and First-aid to the students of the senior division.

Instruction in gymnastics was given by one of the havildars to the 1915-1917 students for two weeks in the year and in drill to both the divisions by the two havildars throughout the year. In future the senior division will have an hour's gymnastics twice a week during the headquarter terms.

(2) *Board of Visitors.*

The Hon'ble Mr. H. F. W. Gillman vacated the Presidentship of the Board of Visitors on 12th October 1916 and assumed charge as member of the Executive Council of His Excellency the Governor. He was succeeded by the Hon'ble Mr. M. E. Couchman.

Mr. C. D. McCarthy, Conservator of Forests, returned from leave and joined the Board of Visitors of the College and Mr. F. L. C. Cowley-Brown proceeded on six months' leave from November, his place on the Board being taken by Mr. H. A. Latham.

CHAPTER II.—RESULT OF EXAMINATIONS.

The Board of Visitors met at Coimbatore on the 22nd June 1917 and remained till the close of the month when the certificates of the 1915-1917 division were awarded. The number of students who appeared for the final examination were 29.

The following list in order of merit shows the certificates awarded :—

Name of student.		Name of circle or State to which attached.
	Honours.	
1. S. Ramachandra Ayyar	... ...	Central Circle.
	M.R.H.	
2. K. Jayaraman	... ...	Southern Circle.
3. C. S. Ramanathan ...	... ...	Central "
4. N. Thiruvikraman Tampi	... ...	Travancore State.
5. M. R. Duraiswami ...	... ...	Southern Circle.
6. A. Manicka Mudaliyar ...	... ...	Northern "
7. S. M. Srinivasagam Pillai	... ...	Southern "

8. D. E. Lewin	Central Circle.
9. P. Dhananjaya Rao	Do. "
10. K. Venkataramanan	Western "
11. K. S. Raghavachar	Private student.
12. C. Karunakara Menon	Western Circle.
13. P. Karunakara Menon	Do. "
14. A. Subrahmanya Ayyar	Northern "
15. T. Paramasivan Pillai	Central "
16. L. A. Krishna Ayyar	Travancore State.
17. K. V. Krishnaswami Ayyangar	Hyderabad State.
18. M. Rama Rao Kini	Western Circle.
19. P. M. Mathew	Private student.
20. J. Ramalingam	Southern Circle.

M.R.L.

21. V. Mahadeva Ayyar	Private student.
22. N. Kesava Pillai	Travancore State.
23. K. Thiruvenkata Achari	Northern Circle.
24. T. Balaramaswami	Private student.
25. B. Gulam Dustagir	Northern Circle.
26. C. S. Nanjappa	Private student.
27. S. A. Dawson	Northern Circle.
28. P. V. Ramana Rao	Private student.

One student failed.

The Government and other prizes were awarded as follows :—

Name of medal.	Name of student.
Best second-year student (gold medal) ...	S. Ramachandra Ayyar.
Best second-year student in Forestry	S. Ramachandra Ayyar.
Best second-year student in Survey	S. Ramachandra Ayyar.
Best second-year student in Range Administration.	S. Ramachandra Ayyar.
Principal's prize for Botany	S. Ramachandra Ayyar.
Campbell-Walker prize for the best all-round Ranger.	S. Ramachandra Ayyar.
Lodge prize for the best student in Engineering.	S. Ramachandra Ayyar.
Brazier prize for the best out-door Ranger ...	N. Thiruvikraman Tampi.
Indian Forester prize for the best essay on "Village Forests"	C. Karunakara Menon.

. The students of the 1915–1917 division were examined in First-aid by Lieut.-Col. C. F. Fearnside, the District Medical and Sanitary Officer, Coimbatore, and his assistant Mr. S. Kesavaswami Ayyar. Twenty-six students gained the St. John's Ambulance Association certificates.

. The 1916–1918 division started with 34 on the rolls as per list attached. By the close of the year the number had been reduced to 27, 7 having been withdrawn from the college owing to incapacity or other causes.

. The final examination in Physical Science for the 1916–1918 division was held in June 1917.

. The Board of Visitors' gold medal for the best junior student was won by student C. Srinivasa Rao.

. Messrs. C. M. Hodgson, H. F. A. Wood, K. R. Venkatramana Ayyar, T. Clear, Saiyid Abdul Qadir Sahib and F. J. Marshall were the examiners for the final examination. The orals were supervised by the members of the Board of Visitors.

. Mr. C. E. C. Fischer adjudicated the essays submitted for the Indian Forester Prize.

. The senior division formed an average year—about as good as may usually be expected.

. The juniors are probably of a similar standard.

. The Examiners' reports show that the instruction has been thorough ; modifications in certain directions were suggested ; these will be given effect to as far as possible. The want of text-books (prepared specially for the college) in sylviculture, engineering and range administration is a distinct drawback. Owing to the

relatively low marks allotted to Botany that subject is not regarded with sufficient seriousness by some students. At Dehra for the rangers' course a much larger proportion of the total marks is awarded to Botany. The withdrawal of conduct marks to count for certificates has greatly raised the qualifying standard, which perhaps is now rather too high for the present needs of the average ranger in the department. For disciplinary purposes the retention of conduct marks (as at Dehra) would be distinctly advantageous. A special allotment for practical efficiency and zeal is also desirable.

CHAPTEH III.—ADMINISTRATION.

. At the meeting of the Board of Visitors held on 29th June 1917 amongst numerous other resolutions the following were passed:—

- that the improvement of water-supply required urgent considerations;
- that in place of college blocks in various districts a demonstration forest should be laid out on the college estate;
- that a telephone or speaking tube should be provided from the Principal's office;
- that construction of tennis courts and athletic ground should be proceeded with expeditiously;
- that the Campbell-Walker Prize should be increased in value;
- also that the sanitary arrangements of the sub-assistant surgeon's and clerks' quarters should be improved; and
- that expert opinion should be obtained on the proposed scheme of panelling the front hall.

The following programme of touring was carried out during the year:—

Senior division.

September.—Komuttiyeri (Javadi hills)—Sandal work; Engineering; Botany.

November-December.—Mount Stuart—General Sylviculture; Elephant operations; Plant, Section and Estimates prepared for diversion of Tram-line to save two furlongs of permanent way; Botany.

January.—Walliar—Fuel slide constructed; Transition Forest studied; Botany; Utilization.

February.—Sadivayal—Combined camp-working plans; Trestle Bridge construction; Designs and estimates for girder bridge over the Perur and for road-dam crossing the Vellapathi stream were sent to the District Forest Officer, Central Coimbatore;

May.—Bandyshola—Final Survey Examinations (Prismatic Compass and Plane Table Height measuring); Study of plantations; Botany; Utilization;

Junior division.

September.—Mount Stuart—Sylviculture of teak; Improvement fellings; Lantana eradication; Hydraulic Ram; Tramway alignment timber transport.

November.—Nilambur, Nedungayam and Calicut—Study of plantations; Stock mapping; Marking for thinning; Volume calculation; Demarcation; Survey; Rafting; Blasting; Culvert construction: Saw Mills; Tile works; and other industrial institutions visited.

January.—Mundanthorai—Teak coppice with standards; Weeding; Thinning; Enumeration; High Forest improvement operations; Road tracing; Culvert construction.

February.—Sadivayal—Combined camp-demarcation; Survey; Road tracing; Levelling; Charcoal preparation; Enumeration; Nursery operations; Standard marking.

May.—Ootacamund—Eucalyptus and conifers studied; Sample plots measured and estimated; Tree analysis; Markings for thinning; Charcoal operations; Survey; Road tracing; Botany excursions were undertaken from all Forest Camps.

During headquarter terms once a week the senior division was instructed in the erection of bridges of various patterns. After a day or two's practice a complete bridge can be assembled in three hours.

For the junior division the same days were devoted to survey of brickmaking, building, etc.

Both divisions attended the elephant sales at Walayar on October 18th.

All work carried out in camp has been recorded in full detail in the College Journals. Observations made and points of interest or importance were communicated to the various District Forest officers.

The thanks of the Principal are due to those officers, in whose divisions the College has toured, for their co-operation and assistance in making all arrangements possible for the comfort of the camp.

Mr. E. Marsden, the Imperial Sylviculturist, and Mr. P. M. Lushington, Conservator of Forests, Southern Circle, visited the junior division camp at Mundanthorai in January 1917: the Forest Commissioner, Mr. McCarthy, Conservator of Forests, Western Circle, and Mr. A. W. Lushington, C.I.E., paid visits to the senior division camp at Bandyshola, Coonoor.

Health and conduct of students.

On the whole the College during the year enjoyed good health.

Excluding the very few grave cases, that were sent to the municipal hospital for treatment, the following table shows the different classes of cases that were dealt with by the College Sub-Assistant Surgeon both in camp and headquarters:—

Malaria, Phyrexia, etc.	380
Digestive, gastrites, gastralgia	217
Respiratory, laringitis, bronchitis, etc.	146
Ulcer, wounds, sprains, etc.	287
Miscellaneous—Neuralgia, eye-trouble, nose, teeth, etc.	147
Total cases treated ...	1,177

The average weight of each division increased markedly during the year.

The conduct of the students was with the exception of a few minor lapses quite satisfactory. There were no serious breaches of discipline. Of the 23 Government students admitted on 1st August 1916, 18 are now in residence; of these 4 came with "moderate" characters from their District Forest officers and the remainder with "fair" or "good" characters.

Chapter IV.—The Gass Forest Museum.

Mr. G. Viswanatha Ayyar continued to be the curator throughout the year. He was placed in additional charge of planting operations on the college estate from April 1917. For this extra duty a deputation allowance was sanctioned by Government.

The museum catalogue was completed; the publication of one of the eleven sections was sanctioned.

The number of visitors to the museum during the year was 10,600 as compared with 5,000 in the previous year (visits of students and staff not included).

The members of the Indian Industrial Commission while at Coimbatore visited the museum.

The contributions during the year were numerous and included:—

350 herbarium specimens from Mr. M. Rama Rao.
126 do. do from Mr. P. F. Fyson.
238 do. do. from Mr. C. E. C. Fischer.
Elephant fœtus from Mr. E. C. Mascarenhas.
Bison head specimens from Mr. A. B. Jackson.
Do. do. from Mr. H. F. A. Wood.
32 trophies on loan.
12 specimens of Haustoria—Mr. P. M. Lushington.
22 photographs of Forest operations—2 presented by Mr. C. S. Ramanathan, student, Madras Forest College (1915–17); 6 presented by Mr. H. F. A. Wood; 1 presented by Mr. N. T. Tampi, student, Madras Forest College (1915–17); 12 presented by Mr. E. Marsden; 1 presented by Mr. E. M. Crothers.

The museum is at present overcrowded and wanting in systematic arrangement. These defects will be remedied after the Principal's forthcoming visit to the Dehra Museum.

Chapter V.—Water-supply, Planting, Roads.

As regards *drinking water*, it seems improbable that the present sources of water-supply will ever produce potable water, and that until the Muthikulam project materializes the college will have to depend upon the present unsatisfactory expedient of obtaining drinking water through a contractor at a high price from a reputed, distant and purer well. The Executive Engineer has been asked to investigate a proposal for sinking a well near the bed of the stream about a mile to the north of the college. If this is found feasible, it would be desirable to consider the question of a joint supply to the Agricultural and Forest Colleges (as well as to any other institutions that may eventually find a habitation in this locality).

For *domestic purposes* (bathing, washing, sanitation, etc.) and for irrigating the avenues, arboretum, and nursery the requirements of the college, when in residence, amount to 7,200 gallons per day; the actual supply varies from 2,400 to 3,600 gallons per day. Hardship, inconvenience, and lack of progress consequently result.

The dhobie-khana built at a cost of Rs. 1,800 in March 1917 cannot be used. Water for students and staff is only available for two hours per day; owing to the cost of obtaining water, from a well outside the college estate through a contractor, casualties in the avenues cannot be replaced, the welfare of the existing trees is not safeguarded, the nursery has until lately been temporarily abandoned, and the project of forming an arboretum has been held in abeyance for the past two years (it is now being started on a limited scale).

If, by an increase in the supply, the work of the engine can be augmented to its full development the planting up of the estate will rapidly progress, and the grounds will present a very different aspect from their present unattractive appearance.

The Executive Engineer has been asked to examine five possible expedients for additional sources of supply (including a windmill, the acquisition of a second well to be worked by the present engine, and the collection of rain water from the roof of the college and all buildings). One or more of these projects should provide an ample quantity—it is doubtful whether the quality of the sub-soil supply will ever improve.

The cost of planting has been enhanced by the nature of the soil, which necessitates in the case of each tree put in an excavation of many cubic feet to be replaced by red earth brought from a distance. Similarly this soil necessitates the embedding of all buildings, sign-posts, gymnasium apparatus, etc , in a deep concrete foundation.

In wet weather the land is a morass and it has consequently been found necessary lately to connect, by a gravelled path on a stable bed, all buildings frequented daily. The cost of maintenance of roads and paths and of all buildings (excepting such residential quarters as the Public Works Department agrees to maintain) will necessitate a considerable increase to the college budget. It would probably prove a real economy in money and in efficiency to place all the estate work (roads, planting, building) under the control of a whole-time officer—a retired trained ranger for choice. The capital cost of all buildings for which the Principal is responsible (apart from those under the control of the Executive Engineer) amounts to Rs. 3,74,275; the charge debitable to repairs on these buildings may amount, on the analogy of the Public Works Department practice, to an annual maximum of Rs. 7,475.

The construction cost of roads up to date is about Rs. 8,500.

Chapter VI.—General.

The stock of the college was checked in July 1916 and steps were taken to remedy the defects noticed. The office was inspected by the Principal in July 1916 and March 1917.

The service registers have been posted up-to-date and the services of the out-going students were verified up to 2nd July 1917.

The work of the office has been satisfactory and credit therefore is due to all the clerks as well as to Mr. S. Doraiswami Ayyar, Head Clerk, and Mr. A. Marudachalam Pillai, Storekeeper.

The Sub-Assistant Surgeon Mr. Natesa Ayyar has carried out his duties efficiently and with zeal.

The conduct of the subordinate establishment throughout the year was fair. The pay sanctioned for the gardeners and sweepers is less than the market wage in Coimbatore and therefore considerably less than what this class considers it has a right to expect in the more remote locality of the Forest College. To induce these people to continue for any length of time in the service of the college (and thus to become more efficient) requires exceptional tact on the part of the House Tutor. This quality Mr. Crothers has displayed, and the sanitation is on the whole very satisfactory. The conduct of peons, watchmen, and college servants generally depends in no small measure upon the nature and extent of control exercised by havildars. The loss resulting from the regretted departure on service of havildar Arogiasami on 21st August 1916 has by no means been made good by his successor.

Athletics, under the guidance and encouragement of Mr. Bennett, were up to the average of past years. Hockey and football were regularly played twice a week during headquarter terms and cricket when opportunity offered. The athletic sports were held in the Coronation Park, and a marathon race for the whole college (winner C. S. Nanjappa) was run off at Sadivayal. The previous record was beaten by four minutes. The Pentland Shield for the best all-round athlete and the Richmond cup for the championship of the athletic sports were also won by C. S. Nanjappa. The continued lack of an athletic ground and tennis courts (the latter sanctioned in G.O. No. 270 W., dated 15th February 1917) at the college is a serious handicap to greater progress in games and is a misfortune to all concerned. Athletics are compulsory and students are selected partly for their efficiency therein, as being likely to afford the best material for future rangers. From experiments conducted by Mr. Bennett it seems probable that a suitable athletic ground can be laid down at a comparatively moderate cost. The pavilion was completed during the year by the Public Works Department.

Mr. Fischer has recorded that all members of the staff have worked with zeal and loyalty, with which opinion the present Principal is in entire accord.

MADRAS FOREST COLLEGE, COIMBATORE,
27*th September* 1917.

F. COWLEY-BROWN,
Principal.

Madras Forest College, Coimbatore.

Name of student.	Circle or state to which attached.
1. A. J. M. Snaize	Northern Circle.
2. M. Narasinga Rao Nayudu	Do.
3. V. Parthasarathi Nayudu	Do.
4. I. Sambasiva Rao Nayudu	Do.
5. B. S. Sankara Ayyar	Do.
6. T. S. Ratnavelu Mudaliyar	Do.
7. A. Vyasalu	Central Circle.
8. A. Bhaviah	Do.
9. C. R. Rajagopalan	Do.
10. E. Venkatasubbiah Chetti	Do.
11. A. Muthukrishnan	Do.
12. S. G. Venkataramanan	Southern Circle.
13. B. B. Saiyid Yahia	Do.
14. B. T. Sitaraman	Do.
15. K. Parthasarathi Ayyangar	Do.
16. U. Rangaswami Ayyar	Do.
17. A. K. Anantharama Ayyar	Do.
18. C. Vasu	Western Circle.
19. J. S. Rowland	Do.
20. T. Kondathu Goundan	Do.
21. C. Sreenivasa Rao	Do.
22. A. B. Fenn	Do.
23. E. S. Krishna Rao	Do.
24. J. Venugopala Nayudu	Mysore.
25. P. K. Parameswaram Pillai	Travancore.
26. J. A. Stephen	Do.
27. Abdul Gaffar	Hyderabad.
28. Abdul Azeez	Do.
29. Udiandra Timmayya	Coorg.
30. G. M. Bartholomeusz	Ceylon.
31. V. Arasaratnam	Do.
32. T. S. Ramamurthi	Private.
33. S. Shankara Alwa	Do.
34. N. S. Krishnaswami	Do.

Summary of revenue and expenditure for the forest year July 1916—June 1917.

Head of service.	Amount. RS. A. P.
Receipts.	
V (*b*) Other sources	7,229 3 5
Expenditure.	
Refunds and drawbacks	8 12 0
A.—Conservancy and Works.	
A (vi) (*c*) Stores, tools and plants	5,177 13 9
A (vii) (*a*) Roads and bridges	1,596 3 0
A (vii) (*b*) Buildings	238 7 6
A (viii) (*e*) Sowing and planting	291 0 8
A (viii) (*g*) Other works	384 15 2
A (ix) (*b*) Other charges	1,003 11 9
Grain compensation allowance	16 15 6
Total A ...	8,709 3 4
B.—Establishment.	
I (*a*) Salaries of Conservators...	— 101 2 3
I (*b*) Do. superior officers	50,897 1 6
I (*c*) Subordinate establishment	25,662 5 0
I (*d*) Office establishment	2,712 0 11
I (*d*) Grain compensation allowance	201 3 10
II Travelling allowance	7,728 7 8
III (*b*) (1) Rents, rates, and taxes	5 0 0
III (*b*) (2) Sundries	9,024 2 10
Total ...	96,129 3 6
Total A and B including refunds ...	1,04,847 2 10

Abstract showing the live stock, stores, tools, etc., for the year ending 30th June 1917.

District.	Description of stock.	On hand at commencement of the year (from 1st July 1916). Number.	On hand at commencement of the year (from 1st July 1916). Amount.	On hand at the end of the year (up to 30th June 1917). Number.	On hand at the end of the year (up to 30th June 1917). Amount.	Difference in value in favour of the year.	Difference in value against the year.
			RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
Madras Forest College, Coimbatore.	Surveying and other instruments.	1,162	7,813 13 11	1,645	7,010 2 4	..	803 11 7
	Tools	429	840 5 3	470	399 6 5	..	440 14 10
	Furniture	1,661	27,955 1 9	1,474	25,973 6 7	..	1,981 1 2
	Tents	163	11,876 10 3	136	1,734 0 0	..	10,142 10 3
	Uniforms and accoutrements.	76	190 0 0	107	188 1 9	..	1 14 3
	Scientific apparatus.	3,940	3,249 5 0	1,602	1,014 1 1	..	2,235 3 11
	Photographic apparatus.	9	612 4 0	9	530 14 9	..	81 5 3
	Gymnasium apparatus.	9	478 0 0	9	439 14 4	..	38 1 8
	Machinery (oil engine, etc).*	..	..	2	2,850 0 0	2,850 0 0	..
	Miscellaneous ..	1,674	2,423 4 0	1,860	4,176 7 7	1,753 3 7	..
	Total ..	9,123	55,438 12 2	7,314	44,316 6 10	4,603 3 7	15,725 8 11

* Handed over by the Public Works Department.

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APPENDICES.

Appendix A.—Comparative statement of number and origin of fires that occurred during 1916–17.

District.	A. Fires caused by accident or through carelessness in burning fire lines.		B. Fires entering the forests by crossing exterior fire lines.		C. Fires beginning inside the reserves or fire-traced areas. Owing to carelessness or accident. By workmen employed in the forests, by purchasers of forest produce and by hay cutters.		By villagers, travellers, etc., passing through the forests.		By railway engines.		By lightning or by fire balloons.		By intentional firing. In order to obtain new grass.		In order to turn out game or to reduce cover.		Maliciously fired.		Total.		Causes unknown.		Total of A, B and C and causes unknown.	
	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Northern Circle.																								
Ganjām	..	..	2	50	..	..	5	154	..	..	..	..	2	165	2	159	6	229	15	707	7	125	24	882
Vizagapatam ..	..	..	2	21	1	3	3	2	..	..	..	..	..	..	..	..	..	..	4	5	..	..	6	26
Gōdāvari, Upper.	..	..	11	20,360	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	6,942	19	27,302
Do. Lower.	..	..	..	..	..	..	2	62	..	..	..	..	..	..	..	..	1	30	3	92	8	182	11	274
Kistna	..	..	..	..	..	..	3	86	..	..	..	..	..	..	..	..	..	..	3	86	..	..	3	86
Kurnool, East ..	2	62	5	1,800	..	..	..	..	..	..	..	..	..	..	..	..	2	4	2	4	71	73,292	80	75,158
Do. South ..	2	273	9	12,058	..	..	9	6,399	3	40	1	8	19	9,351	1	1,600	27	58,844	60	76,242	10	2,190	81	90,763
Do. West ..	..	..	7	2,117	..	..	24	3,121	3	250	..	..	8	2,220	27	18,593	6	8,467	68	32,651	19	16,695	94	51,463
Total ..	4	335	36	36,406	1	3	46	9,824	6	290	1	8	29	11,736	30	20,352	42	67,574	155	109,787	123	99,426	318	245,954
Central Circle.																								
Bellary	5	551	10	5,230	..	..	13	1,962	1	4	1	15	2	309	..	..	..	..	17	2,290	143	60,504	175	* 68,575
Anantapur ..	..	..	15	9,793	4	179	34	12,004	..	..	3	33	54	26,126	1	1,150	26	13,372	122	52,864	70	29,026	207	91,683
Guntūr	..	..	..	..	..	..	33	9,507	..	..	..	..	..	..	..	..	..	..	33	9,507	..	..	33	* 9,507
Cuddapah, North.	9	32,532	12	29,346	..	..	2	173	1	260	..	..	14	16,046	..	..	7	15,856	24	32,335	75	71,201	120	165,414
Do. South	3	703	20	36,043	..	..	9	989	1	90	..	..	56	32,194	1	30	3	6,620	70	39,923	12	8,195	105	* 84,864
Do. West	2	1,800	14	33,055	1	620	3	285	5	1,340	..	..	38	16,119	..	..	26	17,371	73	35,735	14	11,877	103	* 82,467
Nellore	1	1	11	1,181	1	50	12	1,682	..	..	..	..	10	1,427	..	..	5	1,460	28	4,619	1	1,000	41	6,801
Chingleput ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	7	2	7
Chittoor	12	151	21	1,878	2	7	11	4,682	..	..	2	17	55	11,504	6	71	7	1,571	83	17,852	4	659	120	20,540
Total ..	32	35,738	103	116,526	8	856	117	31,284	8	1,694	6	65	229	103,725	8	1,251	74	56,250	450	195,125	321	182,469	906	529,858

* Includes area burnt in unprotected blocks.

Appendix A.—Comparative statement of number and origin of fires that occurred during 1916-17—*cont.*

District.	A. Fires caused by accident or through carelessness in burning fire lines.		B. Fires entering the forests by crossing exterior fire lines.		C. Fires beginning inside the reserves or fire-traced areas. Owing to carelessness or accident. By workmen employed in the forests by purchasers of forest produce and by hay cutters.		By villagers, travellers, etc., passing through the forests.		By railway engines.		By lightning or by fire balloons.		By intentional firing. In order to obtain new grass.		In order to turn out game or to reduce cover.		Maliciously fired.		Total.		Causes unknown.		Total of A, B and C and causes unknown.	
	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Southern Circle.																								
North Vellore ..	1	1	8	776	..	..	3	815	..	..	..	..	10	1,036	..	..	23	1,709	36	3,560	53	3,728	98	8,065
South do. ..	..	..	2	114	2	43	2	8	..	..	..	..	20	2,193	..	..	12	1,302	36	3,546	15	486	53	4,146
West do. ..	..	..	2	10	1	35	1	45	..	..	..	..	3	94	..	..	8	541	13	715	7	197	22	922
South Arcot ..	..	..	..	..	..	..	5	28	..	..	1	2	..	..	..	..	..	..	6	30	1	4	7	34
North Salem ..	5	165·05	7	785	..	..	46	2,629·30	..	..	..	..	4	385	1	25	5	260	56	3,299·30	10	279·85	78	4,529·20
South do. ..	..	..	..	..	2	25	10	417	..	..	..	..	5	117	1	15	..	..	18	574	36	1,015	54	1,589
Trichinopoly ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	46	5	46
Madura	..	..	21	1,298	4	315	9	698	..	..	..	..	17	1,577	2	200	30	2,010	62	4,800	19	966	102	7,064
Tinnevelly ..	1	0·5	1	26	2	1·4	1	0·01	..	..	6	1,177·03	9	3,797	9	2,545·12	..	..	27	7,520·56	1	130	30	7,677·06
Total ..	7	166·55	41	3,009	11	419·4	77	4,640·31	..	..	7	1,179·03	68	9,199	13	2,785·12	78	5,822	254	24,044 86	147	6,851·85	449	34,072·26
Western Circle.																								
Mangalore, North.	5	8	37	581	1	8	36	575	..	..	..	..	5	55	3	15	9	569	54	1,222	16	202	112	2,013
Do. South.	6	51	33	699	..	..	47	1,761	..	..	..	..	13	318	5	204	5	213	70	2,496	29	1,123	138	4,369
Malabar, North ..	2	4	2	143	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	147
Do. South. †	2	365	3	11	..	..	1	* ..	..	..	..	..	..	..	1	* ..	..	..	2	..	..	..	7	376
The Nilgiris † ..	2	13	4	437	..	..	4	259	..	..	..	..	21	1,567	..	..	..	..	25	1,826	3	28	34	2,304
Kollegal ..	2	70	1	240	1	75	13	9,582	..	..	..	..	7	4,990	..	..	2	135	23	14,782	3	1,250	29	16,342
Coimbatore, North.	2	149	1	75	..	..	2	210	..	..	..	..	..	..	..	..	2	1,546	4	1,756	71	23,001	78	24,981
Do. Central.	2	88	1	114	1	40	2	107	2	73	..	..	1	115	..	..	3	53	9	388	16	804	28	1,394
Do. South.	..	..	2	120	11	302	7	62	..	..	..	..	2	55	..	..	2	16	22	435	1	24	25	579
Total ..	23	748	84	2,420	14	425	112	12,556	2	73	..	..	49	7,100	9	219	23	2,532	209	22,905	139	26,432	455	52,505
Grand total, Presidency.	66	36,988	264	158,361	34	1,704	352	58,304	16	2,057	14	1,252	375	131,760	60	24,607	217	132,178	1,068	351,862	730	315,179	2,128	862,390
Grand total for 1915-16.	76	37,557	297	316,164	49	5,668	375	141,713	19	6,663	16	1,313	435	208,850	53	30,224	135	51,228	1,082	445,659	1121	533,959	2576	13,33,339

* Less than one acre. † Includes the number of fires in the areas not under special protection.

APPENDIX B.—Comparative statement of impounded cattle for 1916–17.

District.	Number of cattle impounded. 1915–16.	1916–17.	Average for three years ending 1916–17.
Northern Circle.			
Ganjām	1,035	2,449	1,548
Vizagapatam	2,152	1,021	1,410
Gōdāvari, Upper	336	610	413
Do. Lower	1,185	765	1,039
Kistna	4,355	4,541	4,116
Kurnool, East	7,284	9,352	8,533
Do. South	3,275	1,206	3,271
Do. West	9,865	5,310	8,925
Total ..	29,487	25,254	29,255
Central Circle.			
Bellary	12,424	8,366	11,520
Anantapur	13,789	10,705	11,623
Guntūr	29,450	25,202	27,610
Cuddapah, North	1,466	4,644	14,790
Do. South	6,214	1,957	
Do West	8,503	7,216	
Nellore	9,769	6,534	10,494
Chingleput	6,033	4,120	6,158
Chittoor	7,165	6,672	7,607
Total ..	94,813	75,416	89,802
Southern Circle.			
North Vellore	8,149	7,185	7,774
South do.	3,865	3,672	3,863
West do.	1,184	2,694	2,570
South Arcot	9,224	7,487	13,958
North Salem	3,771	2,669	3,619
South do.	4,553	2,636	4,632
Trichinopoly	2,594	2,814	3,485
Madura	5,035	3,275	5,209
Tinnevelly	2,900	2,026	2,418
Total ..	41,275	34,458	47,528
Western Circle.			
Mangalore, North	332	541	388
Do. South	609	487	518
Malabar, North	15	36	44
Do. South	* 64	85	77
The Nilgiris	1,034	895	963
Kollegal	2,187	861	2,026
Coimbatore, North	3,923	3,108	3,156
Do. Central	766	1,168	1,115
Do. South	1,048	603	746
Total ..	9,978	7,784	9,033
Grand total, Presidency ..	175,553	142,912	175,618

* Revised figure furnished by the District Forest Officer.

ANNUAL FORM No. 65.

Forest Department, Madras Presidency.

Area of reserved forests and reserved lands during 1916–17.

District.	Area of reserved forests.						Area of reserved lands.						Total area of reserved forests and reserved lands in square miles.
	Area on 1st July 1916.		Added during the year.	Excluded during the year.	Area on 30th June 1917.		Area on 1st July 1916.		Added during the year.	Excluded during the year.	Area on 30th June 1917.		
	Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.	Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Northern Circle.													
Ganjām	357,465	559	8	..	357,473	559	41,408	65	..	8	41,400	65	624
Vizagapatam	199,371	312	..	..	199,371	312	1,327	(a) 2	..	..	1,327	2	314
Gōdāvari, Upper	274,864	429	2,847	..	277,711	434	225,377	352	..	4,818	220,559	344	778
Do. Lower	258,276	404	344	..	258,620	404	47,955	75	..	..	47,955	75	479
Kistna	171,432	268	492	(c) 1,476	170,448	266	..	..	(b) 400	..	400	1	267
Kurnool, East	640,302	1,000	..	..	640,302	1,000	..	..	..	..	..	..	1,000
Do. South	490,439	766	..	..	490,439	766	..	..	..	..	..	..	766
Do. West	555,071	867	..	(c) 992	554,079	866	..	..	..	..	..	..	866
Total ..	2,947,220	4,605	3,691	2,468	2,948,443	4,607	316,067	494	400	4,826	311,641	487	5,094
Central Circle.													
Bellary	396,444	619	..	(c) 9,392	387,052	605	40,000	63	..	..	40,000	63	668
Anantapur	480,660	751	(d) 415	(c) 1,590	479,485	749	451	1	12	415	48	..	749
Guntūr	521,242	814	..	(c) 869	520,373	813	..	..	..	..	..	..	813
Cuddapah, North	424,863	664	..	..	424,863	664	..	..	..	..	..	..	664
Do. South	296,625	464	(e) 1,348	(c) 2,382	295,591	462	77	..	..	77	..	..	462
Do. West	436,379	682	(d) 100	(f) 2,300	434,179	678	2,047	3	27	100	1,974	3	681
Nellore	462,158	722	(d) 38	(c) 1,102	461,094	720	815	1	388	38	1,165	2	722
Chingleput	133,082	208	..	864	132,218	207	..	..	..	..	..	..	207
Chittoor	531,873	831	..	(c) 168	531,705	831	42	..	..	..	42	..	831
Total ..	3,683,326	5,755	1,901	18,667	3,666,560	5,729	43,432	68	427	630	43,229	68	5,797

The area of 427 acres shown in column 10 relates to those notified under section 4 and 630 acres shown in column 11 were transferred to reserved forest.

(a) Includes 2·05 sq. miles of Karakavalasa leased forests and East and West blocks.
(b) Area renotified under section 26 by the Collector.
(c) Disafforested.
(d) Notified under section 16 of the Forest Act.
(e) Out of this, 77 acres were notified under section 16 and 1,271 acres represent excess area found on resurvey.
(f) One hundred and eighty acres were disafforested and 2,120 acres were handed over to Putlampatti Shrotriemdar.

Area of reserved forests and reserved lands during 1916-17—*cont.*

District.	Area of reserved forests.						Area of reserved lands.						Total area of reserved forests and reserved lands in square miles.
	Area on 1st July 1916.		Added during the year.	Excluded during the year.	Area on 30th June 1917.		Area on 1st July 1916.		Added during the year.	Excluded during the year.	Area on 30th June 1917.		
	Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.	Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Southern Circle.													
North Vellore	(a) 304,793	476	..	1,441	303,352	474	1,237	2	..	18	1,219	2	476
South do.	254,039 (c) + 9,444 (d) − 2,430	408	..	..	261,053	408	..	..	..	..	..	..	408
West do.	209,930	328	23	..	209,953	328	23	..	224	23	224	..	528
South Arcot cum Tanjore.	225,670 (c) − 9,444	338	..	..	216,226	338	..	..	..	..	..	..	338
North Salem	507,342 (e) + 4,166	799	425	..	511,933	800	24,842	39	110	425	24,527	38	838
South do.	371,668 (e) − 4,166	574	13	..	367,515	574	11,633	18	..	(f) 203	11,430	18	592
Trichinopoly	211,552 (b) + 89	331	..	..	211,641	(o) 330	3,623	6	532	..	4,155	(o) 7	337
Madura	422,350	660	..	..	422,350	660	2	..	..	..	2	..	660
Tinnevelly..	274,325	429	..	..	274,325	429	139	..	101	137	103	..	429
Total ..	2,779,328	4,343	(j) 461	(k) 1,441	2,778,348	(o) 4,341	41,499	65	967	806	41,660	(o) 65	4,406
Western Circle.													
Mangalore, North	232,047	362	..	..	232,047	362	..	..	14	..	14	..	362
Do. South	278,800	436	..	..	278,800	436	..	..	..	..	..	..	436
Malabar, North	168,076	263	..	..	168,076	263	22	..	..	..	22	..	263
Do. South	91,525	143	(l) 590	(k) 8	92,107	144	12,810	20	128 (l) 44	..	12,982	20	164
The Nilgiris	303,924	475	(j) 192	(k) 6,672	297,444	465	51,212 (m) 2,918	80 5	77	(n) 192 (h) 67	51,097 2,851	80 4	549
Kollegal	467,439	730	(j) 254	..	467,693	731	226 (i) 38	..	..	(n) 254	10	..	731
Coimbatore, North ..	586,172	916	..	..	586,172	916	659	1	..	..	659	1	917
Do. Central ..	232,330	363	(j) 534	(k) 1,118	231,746	362	642	1	..	(n) 534 (g) 14	94	..	362
Do. South ..	290,740	454	(j) 54	..	290,794	454	54	..	..	(n) 54	..	..	454
Total ..	2,651,053	4,142	1,624	7,798	2,644,879	4,133	68,581	107	263	1,115	67,729	105	4,238
Grand total, Presidency .	12,060,927	18,845	7,677	30,374	12,038,230	18,810	469,579	734	2,057	7,377	464,259	725	19,535

(a) Correct area in acres furnished by the District Forest officer.
(b) Addition due to adoption of areas as per revised boundary description of Vaiyampatty range reserves.
(c) Area transferred from South Arcot to South Vellore.
(d) Deduction of area on account of correct computation.
(e) Due to the transfer of Suriyamalai reserve from South Salem to North Salem.
(f) Of this 190 acres relating to Jarugumalai reserved land were thrown out at Settlement.
(g) Excluded from reservation.
(h) Toda patta lands transferred to reserved lands.
(i) Omitted from previous year's return.
(j) Notified under section 16.
(k) Disafforested.
(l) Rectification due to adoption of survey of India figures.
(m) Toda patta lands.
(n) Transferred to reserved forests.
(o) Revised figure furnished by Conservator.

Annual Form No. 66.

Forest Department, Madras Presidency.

Progress made in Forest Settlements during the year 1916–17.

Forest district.	Name of forest.	Area in square miles.			Cost during year.		Entire cost per square mile of areas finally settled.	Government notification of settlement.	
		Finally settled during the year.	In hand at commencement of the year.	Taken in hand during the year.	In forest accounts.	In other accounts.		Number.	Date.
	Northern Circle	SQ. MLS.	SQ. MLS.	SQ. MLS.	RS.		RS.	NO.	
Ganjām ..	Kriamba enclosure	0·013	(*a*) 0·013	..	..	..	..	216	12th April 1917.
	Chokkapad	64·69	64·69	..	..	..	..	315	12th June 1917.
Vizagapatam.	....	..	.	..	..	..	..		..
Gōdāvari, Upper.	Busipakala	(*b*) ..	1·88	..	..	..	..	..	..
	Nugur	..	246·61	..		..	..	..	..
	Pedamidisileru	..	96·48	..	..	..	..	..	..
	Dhanukonda extension IV to Rekapalli hill reserve.	1·53	1·53	..	..	..	..	327	28th June 1917.
	Korrajulagudem extension I in Valsugri reserve.	(*c*) ..	1·93	..	..	..	..	..	..
	Vandalurgondi extension I in Kansulur reserve.	0·82	0·82	..	..	..	..	512	4th November 1916.
	Tulluvada extension V to Rekapalli hill reserve.	0·50	0·50	..	..	..	..	512	Do.
	Gummadakonda extension No. 3 to Rekapalli hill reserve.	2·16	2·40	..	..	..	..	512	Do.
Gōdāvari, Lower.	Coringa extension	..	75·00	..	..	..	..	..	..
Kistna ..	....	..	..	..	..	..	..	..	..
Kurnool, East.	....	..	..	..	..	..	..	..	..
Kurnool, South.	....	..	..	..	..	..	..	..	..
Kurnool, West.	....	..	..	..	..	..	..	..	..
	Total ..	69·713	491·853	..	..	..	..	..	..
	Central Circle.								
Bellary ..	....	..	..	..	..	..	..	..	..
Anantapur ..	Bhadrapur extension ..	0·56	0·56	..	..(*d*)	..	..	1191, Rev.	24th April 1917
	Addition to Amagondapalaiyam.	..	0·02	..	575	..	28,750	Awaiting orders.	
	Addition to Peddoddi reserve.	0·09	0 09	..	326	..	3,622	167, Rev.	22nd January 1917.
	Dadithota	..	0·06	..	..	..	..	Awaiting orders.	
Guntūr ..	....	..	..	..	..	..	..	..	..
Cuddapah, North.	....	..	..	..	..	..	..	..	..
Cuddapah, South.	Thummalabylu	0·12	(*e*) 0·12	..	548	..	4,567	1075, Rev.	12th May 1916.
	Palakonda	0·16	·0·16	..	..	..	..	1431, Rev.	23rd June 1916.
Cuddapah, West.	Enclosures in Cuddapah Palakondas.	..	..	0·03	..	..	..	..	..
	Certain fields in Surabu reserved forest.	..	..	0·02	..	..	..	..	..
	Pentas in Palakondas ..	..	0·28	..	1,980	..	7,071	..	..
	Putlampalli shrotriem forest ..	..	2·76	..	11,082	..	4,015	..	..
	....	..	..	..	..	..	..	..	..
Nellore ..	Addition to Gudlur, South ..	0·04	0·04	..	804	..	20,100	..	..
	Kavali extension No. II ..	..	0·08	..	754	..	9,425	..	..
	Cherlopalli addition	0·02	0·02	..	— 18	..	..	..	..
	Sriharikota enclosure	..	1·14	..	..	..	..	..	..
	Addition to Bitragunta R. F.	..	..	(*f*) 0·07	..	..	..	..	..
	Addition to Prabhagiripatnam R. F.	..	..	0·04	..	..	..	..	..
	Enclosures in Dachur ..	..	..	0·085	..	..	..	..	..
	Yellaseri Block B	..	..	0·025	..	..	..	..	..
	Kottapalam	..	..	0·020	..	..	..	..	..
	Turupukam Cumpad	..	..	0·030	..	..	..	..	..
	Teluguroyapuram	..	..	0·025	..	..	..	..	..
	Rapur Veligonda B	..	..	0·005	..	..	..	..	..
	Guvvadi, west	..	..	0·080	..	..	..	..	..
	Udyagiri Durgam B	..	..	0·010	..	..	..	..	..
	Udyagiri Yerrakondas ..	..	..	0·040	..	..	..	..	..
	Tummalapenta, West ..	..	..	0 015	..	..	..	..	..
	Tummalapenta, North ..	..	..	0·005	..	..	..	..	..
	Chinna Annalur extension ..	..	..	0·015	..	..	..	..	..
	Veligonda	..	..	0·015	..	..	..	..	..
	Chagollu A. B	..	..	0 030	..	..	..	..	..
	Ramapatam	..	..	0·010	..	..	..	..	..
	Nandanavanam A	..	..	0·015	..	..	..	..	..
	Nandanavanam B extension ..	..	..	0·045	..	..	..	..	..
	Mogilicherla, west	..	..	0·020	..	..	..	..	..
Chingleput ..	....	..	..	..	..	..	..	..	..
Chittoor ..	Addition to Gundlur reserve.	..	0·015	..	..	..	..	..	..
	Addition to Ankalammakonda.	..	0·05	..	..	..	..	..	..
	Total ..	0·99	5·395	0·650	16,051	..	..	..	..

(*a*) The area of 0·13 square mile shown in the return for the previous year is incorrect.
(*b*) Wrongly shown in previous years as requiring settlement and will be eliminated next year.
(*c*) Reservation abandoned; will be eliminated next year.
(*d*) Paid before the year opened. (*e*) Revised figure. (*f*) Areas undergoing settlement.

Progress made in forest settlements during the year 1916-17—*cont.*

Forest district.	Name of forest.	Area in square miles. Finally settled during year.	In hand at commencement of year.	Taken in hand during year.	Cost during year. In forest accounts.	In other accounts.	Entire cost per square mile of areas finally settled.	Government notification of settlement. Number.	Date.
	Southern Circle.	SQ. MLS.	SQ. MLS.	SQ. MLS.	RS				
North Vellore.	Karapet extension ..	..	0·0844	..	(*a*) 485	..	..	..	..
	Sholavaram	..	0·0281*	..	..	..	..	..	..
	Shanankuppam..	..	0·0042	..	..	..	..	..	..
	Addition to Banavaram reserve.	..	0·0703	..	..	..	..	..	..
	Tiruvallam plantation ..	..	0·6834	..	..	..	..	..	..
	Virinjipuram ,, ...	..	0·4941	..	..	..	..	..	..
	Ammundi ,, ...	..	0 2500	..	..	..	..	..	..
	Vannivedu ,, ...	..	0·0898	..	..	..	..	..	..
	Kelminnal ,, ...	..	0·2281	..	..	..	..	..	..
West Vellore.	Singarapet extension (Survey Nos. 129 and 130 of Sembarai village).	0·0348	..	..	(*b*) 198	..	..	1171 Rev.	23rd May 1916.
	Mambakam extension.. ..	..	..	0·3500	..	..	..	G.O. Mis. 741	12th March 1917.
North Salem.	Bathanavadi extension ..	0·6640	..	..	(*c*) 44	..	..	G.O. 533, Rev.	21st February 1917.
	Hudaidurgam 4 blocks ..	..	38	..	..	..	..	..	..
	Bevanurmalai 2nd extension.	..	0·0078	..	..	..	..	..	..
	Kesurguli extension	..	..	0·1734	..	..	..	G.O. 2275, Rev.	3rd October 1916.
South Salem.	Arana	..	3	..	(*c*) 597	..	..	..	..
	Thirthagiri	..	3	..	..	..	..	..	..
	Jarugumalai	..	12	..	..	..	..	..	..
	Thirumanur extension ..	0·0200	..	..	..	..	..	G O. 2431, Rev.	31st October 1916.
Trichinopoly.	Gundur	..	3·85	..	(*d*) 362	..	..	..	..
	Ariyur shola block	..	1·81	..	..	..	..	..	..
	Shelur extension	..	..	0·8313	..	..	..	G.O. 2284, Rev.	4th October 1916.
Madura.	Addition to Shengalvarayar reserve.	..	0·0039	..	(*e*) 347	..	..	..	..
	Kuliratti enclosure	..	0·2147	..	..	..	..	Since cancelled in G.O. 1972, Rev., 2nd July 1917.	
Tinnevelly.	A piece of land in Srivilliputtur ghaut forest.	..	0·0027	..	..	..	..	..	..
	Karumandiamman shola and Mudangiar.	..	..	0·1572	..	..	..	G.O 1811	21st June 1917.
	Total ..	0·7188	63·8215	1·5119	2,033	..	..	..	..
	Western Circle.								
Mangalore, North.	Naravi extension No. VII ..	..	..	·02	..	..	..	132	12th March 1917.
Malabar, South.	Panakadan extension No. I ..	..	..	·003	..	..	..	487	1st Nov. 1916.
	Kottanikunnu	..	..	·19	..	..	..	278	14th June 1917.
The Nilgiris.	Benne addition No. III ..	·135	·135	..	(*f*) 350	..	..	232	9th May 1917.
	Do. do. No. IV ..	·098	·098	..	..	..	..		
	Kalmalai addition	·064	·064	..	..	..	..		
	Naduhatti addition No. I ..	·003	·003	..	..	..	..	157	13th March 1917.
	Rangaswami Peak ..	..	2·23	..	..	..	..	..	..
	Arambi addition No. I ..	..	..	·12	..	..	..	150	19th March 1917.
Kollegal	Edayarhalli addition No. I ..	·036	·036	..	..	..	..	291	22nd May 1916.
	Do. No. III ..	..	·016	..	..	..	..	..	..
	Do. No. V ..	·030	·030	..	..	..	..	292	22nd May 1916.
	Do. No. VI ..	·160	·160	..	..	..	..	292	Do.
	Do. No. VII..	·01	·01	..	..	..	..	239	5th May 1917.
	Chikkailuru addition No. I ..	·103	·103	..	396	..	..	201	24th April 1917.
	Chikkailuru extensions Nos. III and IV.	·015	·051	..	..	..	..	281	22nd May 1916.
Coimbatore, North.	Enclosures in South Bargur reserve and its additions.	..	·150	..	..	..	..	..	..
	Enclosures in North Bargur reserve and its additions.	..	·198	..	..	..	..	..	..
	Enclosures in Gutialattur reserve.	..	·672	..	..	..	..	..	..
Coimbatore, Central.	Sundapatti additions Nos. 2 to 19, (*h*).	·83	·85 (*g*)—·02	..	213	..	..	101	15th February 1917.
	Addition to Thadagam block No. IV.	..	·06	..	..	..	..	..	..
	Thadagam additions Nos. 2 to 21.	..	·087	..	..	..	..	..	..
	....	..	..	..	(*i*)73,186	..	..	..	..
Coimbatore, South.	Additions to Anamalai reserve.	·08	·08	..	..	..	..	332	19th June 1916.
	Total ..	1·6	5·023	·333	74,145	..	..	..	..
	Grand total, Presidency ..	73	566	2	92,229	..	..	..	..

* Cancelled—vide B.P.F. 13, Mis., dated 10th January 1917.

(*a*) Includes Rs. 6 relating to acquisition of patta lands included in Amburdrug reserve under Land Acquisition Act.

(*b*) Includes Rs. 188 relating to compensation paid for the acquisition of 2·27 acres for the construction of a rest-house at Pudur in the Tripatur Javadis.

(*c*) Represents the cost of acquiring lands required for roads and buildings.

(*d*) Represents the cost of acquiring 36 acres of land in Arasadi-Arivithi reserve.

(*e*) Represents the amount of portion of compensation for lands taken up for A. Kombai Pillayarnatham and Sendurai Pillayarnatham forest roads.

(*f*) Fee awarded to the Hon'ble Mr. E. F. Barber for the expert evidence given by him in connection with the acquisition of the Mudumalai and Kumbarakolli leased forests.

(*g*) Excluded from reservation. (*h*) The entry of Nos. 2 to 20 in the previous year's return was an error for Nos. 2 to 1

(*i*) Supplemental compensation paid for the lands acquired for the Attapadi blocks Nos. V and VI.

ANNUAL FORM No. 67.

Forest Department, Madras Presidency.

Record of demarcation and maintenance of boundaries during 1916–17.

District.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at the close of the year.	Length of boundaries still to be demarcated at the close of the year.	Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year. On new work.	Expenditure on demarcation during the year. On repairs.
Northern Circle.	MILES.	MILES.	MILES.	MILES.		MILES.	MILES.	RS.	RS.
Ganjām	(o) ..	(a)&(p) 1,168 10	190	(q) 1,368	..	(r) 80	(s) 1,448	(t) ..	(u) 76 (b) 110
Vizagapatam ..	24	(a) 540	..	564	..	19	583	359	.. (b) 6
Gōdāvari, Upper ..	..	406	..	(c) 406	..	143	(c) 549	..	239 (b) 1,140
Do. Lower ..	..	(a) 699 61	25	785	..	51	836	..	1,110 (b) 608
Kistna	..	(a) 455 4	93	552	..	41	(d) 593	..	125 (b) 56
Kurnool, East ..	..	(a) 697	6	703	..	48	751	..	258
Do. South ..	..	(a) 520 81	28	629	..	5	634	..	258 (b) 128
Do. West ..	..	(a) 209 26	695	930	..	100	1,030	..	395
Total ..	24	(a) 4,288 588	1,037	5,937	..	487	6,424	359	2,461 (b) 2,048
Central Circle.									
Bellary	5	(l) 8	(l) 1,643	1,656	6	..	1,662	95	82
Anantapur	14	..	1,832	1,846	..	..	1,846	191	237
Guntūr	..	(m) 12	(m) 1,368	1,380	..	.	1,380	..	726
Cuddapah, North ..	..	56 (a) 280	293	629	..	13	642	..	1,327
Do. South ..	..	9 (a) 45	272	326	..	40	366	..	334
Do. West ..	..	9 (a) 434	887	1,330	..	22	1,352	..	290
Nellore	..	(n) 1,981	..	1,981	..	84	2,065	..	798
Chingleput	..	(n) 854	..	854	..	..	854	..	633
Chittoor	..	1,447	..	1,447	..	59	1,506	..	329
Total ..	19	4,376 (a) 759	6,295	11,449	6	218	11,673	286	4,756
Southern Circle.									
North Vellore ..	..	(e) 1,117	..	1,117	..	(e) 7	(e) 1,124	..	(h) 37
South do. ..	..	(f) 704·98	..	704·98	..	14·5	719·48	..	52
West do. ..	..	482·5	20	502·5	6·5	13·5	522·5	..	..
South Arcot	..	(g) 1,133	..	1,133	..	..	1,133	..	31
North Salem	..	1,187	(i) 161	1,348	..	40	1,388	..	729
South do.	0·50	1,047	(i) 77	1,124·5	..	5	1,129·5	..	582
Trichinopoly	..	915	63	978	3	24	1,005	..	..
Madura ..	67	1,043	(k) 390	1,500	59	178	1,737	2,953	75
Tinnevelly	..	3	501	504	..	14	518	..	73
Total ..	67·50	(a) 6,547 1,085	1,212	8,911·98	68·5	296	9,276·48	2,953	1,579

(a) Cleared by forest subordinates free of cost.
(b) Represents cost of sign boards and cost of cutting other than boundary lines.
(c) Certain enclosures having been reserved, it is no longer necessary to maintain their boundaries; hence decrease.
(d) The decrease from the previous year's figures is due to the disafforestation of three reserves.
(e) Revised figures furnished by the District Forest Officer on account of disafforestation of certain blocks.
(f) 52·48 miles were transferred from South Arcot to South Vellore on account of transfer of certain reserves.
(g) Sixteen miles transferred to Public Works Department—vide B.P. Forest No. 375, Mis., dated 22nd December 1916.
(h) Includes Rs. 10 spent on demarcation of the 6 acres of the site for the construction of Thongamalai rest-house.
(i) The entry 406 in column 4 of the previous year's return is a mistake for 401.
(k) Nineteen miles were transferred from South Salem to North Salem on account of transfer of Suriamalai reserve.
(l) The difference between columns 3 and 4 and column 5 of the previous year's return is due to the disafforestation of 95 miles of reserves.
(m) The difference between columns 3 and 4 and column 5 of the previous year's return is due to the disafforestation of 12 miles of reserves.
(n) Due to disafforestation of 14 miles of reserves.
(o) Excludes 42 miles belonging to Parlakimedi Maliahs.
(p) Do. 505 do. do.
(q) Do. 547 do. do.
(r) Do. 14 do. do.
(s) Do. 561 do. do.
(t) Excludes Rs. 542 spent on new works in Parlakimedi Maliahs.
(u) Do. Rs. 4 spent on repairs in Parlakimedi Maliahs.

Record of demarcation and maintenance of boundaries during 1916-17—*cont.*

District.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at the close of the year.	Length of boundaries still to be demarcated at the close of year.	Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year. On new work.	Expenditure on demarcation during the year. Or repairs.
	MILES.	MILES.	MILES.	MILES.	MILES.	MILES.	MILES.	RS.	RS.
Western Circle.									
Mangalore, North ..	..	47	1,189	1,236	..	103	1,339	..	387
Do. South ..	..	2	1,128	1,130	46	101	1,277	..	34 (*f*) 40 (*g*) 17
Malabar, North ..	4	(*a*) 162 (*b*) 32	980	1,178	16	36	1,230	367	(*e*) 45 (*g*) 34
Do. South ..	..	23 (*a*) 48	60	131	20	55	206	..	258 (*e*) 35
The Nilgiris	(*i*) 6	124	1,491 (*c*)— 50	1,571	(*g*) 8	299	1,878	556	8,853 (*g*) 101
Kollegal	..	24 (*a*) 45	101	170	226 (*d*)—3	87	480	..	721
Coimbatore, North ..	2	5 (*b*) 389	146	542	28	103	673	43	214 (*e*) 35
Do. Central.	..	10 (*b*) 177	396 (*e*) —12	571	27	50	648	..	329 (*e*) 56 (*h*) — 18
Do. South ..	..	(*a*) 10 (*b*) 67	137	214	..	52	266	..	11
Total ..	12	235 (*a*) 265 (*b*) 665	5,566	6,743	368	886	7,997	966	11,152
Grand total, Presidency.	123	6,549 (*b*) 12,259	14,110	33,041	442	1.887	35,370	4,564	21,996

(*a*) Cleared for fire-protection, the cost being debited to A-viii (*f*).
(*b*) Cleared by subordinates free of cost.
(*c*) Length of boundaries of forests disafforested.
(*d*) Do. of enclosures transferred to reserved forests.
(*e*) Cost of construction of cairns, pillars, etc.
(*f*) Cost of demarcation of coupes.
(*g*) Cost of preliminary demarcation.
(*h*) Cash recovery of service payments.
(*i*) Four and a half miles of newly cut district boundary between the Nilgiris and Coimbatore and 1½ miles, the boundaries of forests notified under section 16 of the Forest Act during the year.

ANNUAL FORM No. 69.

Forest Department, Madras Presidency.

Progress made in working-plans during 1916–17.

District.	Areas for which working-plans have been completed and approved by the Board.		Areas for which working-plans are being compiled or have been compiled but not sanctioned.		Areas for which working-plans have still to be taken in hand.	Area for which working-plans are not at present required.	Total forest area as in Form No. 65.
	At commencement of the year.	During the year.	At commencement of the year.	Taken in hand during the year.			
Northern Circle.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Ganjām	624	..	..	..	..	..	624
Vizagapatam ..	145	..	28	..	(a) 58	(a) 83	314
Gōdāvari, Upper ..	58	..	107	..	(b) 268	(c) 345	778
Do. Lower ..	24	233	147	..	..	75	479
Kistna	(d) 150	..	..	..		(e) 117	267
Kurnool, East ..	147	..	(f) 195	..	(f) 658	..	1,000
Do. South ..	685	..	81	..	..	..	766
Do. West ..	469	..	..	..	..	(e) 397	866
Total ..	2,302	233	558	..	984	1,017	5,094
Central Circle.							
Bellary	..	64	..	152	293	159	668
Anantapur ..	(g) 425	..	..	..	324	..	749
Guntūr	(h) ..	..	9	234	570	..	813
Cuddapah, North ..	(i) 62	..	..	41	557	4	664
Do. South ..	(i) 107	..	..	..	355	..	462
Do. West ..	(i) 23	..	1	..	657	..	681
Nellore	(g) 199	7	20	..	496	..	722
Chingleput ..	(i) 2	84	..	100	..	21	207
Chittoor	(i) 33	..	..	154	644	..	831
Total ..	851	155	30	681	3,896	184	5,797
Southern Circle.							
North Vellore ..	(j) 474	2	..	..	..	..	476
South do. ..	400	..	..	..	8	..	(o) 408
West do. ..	328	..	..	..	..	(p) ..	328
South Arcot .	156	..	(k) ..	32	56	94	338
North Salem ..	161 (l) + 6	96	366	..	209	..	838
South do. ..	505 (l) — 6	2	73	..	18	..	592
Trichinopoly ..	184	..	(k) ..	16	54	83	337
Madura	356	(m) 3	..	..	301	..	660
Tinnevelly ..	246 (n) — 10	..	..	..	17	176	429
Total ..	2,800	103	439	48	663	353	4,406
			Reserved forests.				
Western Circle.							
Mangalore, North.	358	..	..	..	4	..	362
Do. South.	436	..	..	..	..	..	436
Malabar, North ..	178	..	(s) ..	..	85	..	263
Do. South ..	7	..	..	..	96	37	140
The Nilgiris ..	107	..	..	..	358	..	465
Kollegal	53	..	22	..	160	496	731
Coimbatore, North.	289	(r) 3	..	..	624	..	916
Do. Central.	220 (q) + 19	..	..	..	24	99	362
Do. South.	76	..	..	..	34	317	427
Total ..	1,743	3	22	..	1,385	949	4,102

(a) Correct figures as reported by the District Forest Officer.
(b) The increase over previous year's figure is due to the constitution of additional areas as reserved forests.
(c) The decrease from the previous year's figure i due partly to transfer of areas from column 7 to column 6 and partly to the abandonment of proposed reserves.
(d) The increase over last year's figure is due to recomputation of areas.
(e) The difference between this and previous year's figure is due to the disafforestation of certain reserves.
(f) The difference between this and previous year's figure is due to the preparation of working plans for certain areas having been dropped for the present.
(g) Difference due to area disafforested.
(h) Due to cessation of the period covered by the working-plan.
(i) Due to cancellation of working-plans.
(j) The difference in area is due to the disafforestation of certain reserves during the year.
(k) The column is left blank, as the working-plan has to be revised with reference to the recent classification.
(l) Represents area of Suriamalai reserve transferred from South to North Salem.
(m) Three square miles shown in column 3 represent the area of Vandamalai-Rangamalai reserve transferred from Trichinopoly district and included in the revised working-plan sanctioned in B.P. Forest No. 136, dated 31st August 1916.
(n) An area of 10 square miles has been deducted being the area of old Sivasailam working circle. A new working circle is proposed and the old one cancelled.
(o) Fifteen square miles were transferred from South Arcot and 4 square miles deducted on account of correct computation of areas of reserves.
(p) The area is very small, being below $\frac{1}{25}$ of a square mile.
(q) Due to adoption of correct areas.
(r) Additional areas brought under the revision of working-plans.
(s) Fifty-three square miles shown in the last year's return have been expunged as no regular working-plan was prepared.

Progress made in working-plans during 1916–17—*cont.*

District.	Areas for which working-plans have been completed and approved by the Board.		Areas for which working-plans are being compiled or have been compiled but not sanctioned.		Areas for which working-plans have still to be taken in hand.	Areas for which working-plans are not at present required.	Total forest area, as in form No. 65.
	At commencement of the year.	During the year.	At commencement of the year.	Taken in hand during the year.			
			Reserved lands.				
Western Circle—cont.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Mangalore, North.	..	..	..	..	..	*	*
Malabar, North ..	..	..	..	..	..	*	*
Do. South .	..	..	..	..	..	*	*
The Nilgiris ..	..	..	..	..	1	(*t*) 7	8
Kollegal	..	..	..	..	..	*	*
Coimbatore, North.	..	..	..	..	1	..	1
Do. Central.	..	..	..	..	..	*	*
Total ..	..	..	..	..	2	7	9
			Leased forests.				
Malabar, South ..	24	..	..	..	..	..	24
The Nilgiris ..	76	..	..	..	..	..	76
Coimbatore, South.	..	..	..	27	..	..	27
Total ..	100	..	..	27	..	..	127
Grand total, W.C.	1,843	3	22	27	1,387	956	4,238
Grand total, Presidency.	7,796	494	1,049	756	6,930	2,510	19,535

* Less than one square mile. (*t*) Includes 4 square miles of toda patta lands.

Annual Form No. 70.

Forest Department, Madras Presidency.

Communications and Buildings during 1916-17.

District.	Roads (including bridle-paths and culverts). New works. Length.	New works. Cost.	Repairs. Length.	Repairs. Cost.	Buildings. Cost af new works.	Buildings. Cost of repairs.	Other works. Cost of new works.	Other works. Cost of repairs.
	M. F. CH.	RS.	M. F. CH.	RS.	RS.	RS.	RS.	RS.
Northern Circle.								
Ganjām	1 6 0	1,817	51 3 1	(a) 1,716 (b) — 121	(i) 217	(a)&(j)3,137 (b) + 120	190 (b) — 109	..
Vizagapatam	..	2	9 0 0	202	12	1,282 (b) + 6	..	8
Gōdāvari, Upper	69 7 4	,999	..		115	(a) 1,226	— 58	..
Do. Lower	23 4 0	254	63 2 0 63 2 0	.. (a) 1,793	1,003	(a) 3,786 (b) + 140	809 (b) + 1	..
Kistna	1 4 0	3,032	21 0 0	879	20	(a) 899	..	..
Kurnool, East	65 7 0	4,236	73 1 0	6,753	4,008	(a) 1,341	1,123	438
Do. South	..	..	78 0 0	6,345	2,181	(a) 1,268	277	149 (b) — 2
Do. West	39 2 0	1,608	59 0 0	1,504 (b) + 12	1,666	2,318 (b) + 6	30	706
Total	201 6 4	12,948	354 6 1	19,083	9,222	15,529	2,263	1,299
Central Circle.								
Direction	..	..	..	..	53	..	..	..
Bellary	..	..	24 0 0	203	..	1,543	..	5
Anantapur	0 6 0	112	2 5 0	89	..	1,828	..	41
Guntūr	..	..	8 5 0	771	50	1,070	..	..
Cuddapah, North	7 5 0	1,014	7 0 0	183	3,093	877	66	20
Do. South	16 2 0	2,819	42 4 0	819	909	970	27	..
Do. West	7 2 0	2,669	18 4 0	585	874	939	29	..
Nellore	58 0 0	1,233	..	33	1,627	548	452	18
Chingleput	5 1 0	442	23 2 0	592	207	508	..	111
Chittoor	15 2 0	738	30 4 0	912	184	1,903	43	..
Total	110 2 0	9,027	157 0 0	4,187	6,997	10,186	617	195
Southern Circle.								
Vellore, North	4 0 0	2,253	16 0 0	1,780	3,578	501 (c) + 502	164	110
Do. South	..	..	10 0 0	105	3,312	846 (c) + 73	226	8
Do. West	..	(d) 10	8 0 0	575	2,860	309 (c) + 96	161	..
South Arcot *cum* Tanjore.	..	..	8 0 0	168	..	776 (c) + 432	..	76
Salem, North	..	..	90 0 0	2,529	2,799	1,488 (c) + 162	70	72
Do. South	9 0 0	342	43 0 0	1,009	4,189	442 (c) + 545	211	47
Trichinopoly	2 0 0	521	98 0 0	1,689	2,500	497 (c) + 422	189	..
Madura	8 0 0	503	119 0 0	5,316	887	934 (c) + 776	92	36
Tinnevelly	2 0 0	1,822	45 0 0	3,013	1,115	1,105 + 415	..	— 1
Forest Engineer	14 0 0	49,451 (e)+1,338	..	..	..	..	..	..
Total	39 0 0	56,240	437 0 0	16,184	21,240	6,898 (c)+ 3,423	1,113	348
Western Circle.								
Mangalore, North	5 7 0	1,081	17 2 0	647	1,447	165 * 130	369	9
Do. South	8 7 0	136	7 6 0	45	2,748	333	327	126
Malabar, North	..	(f) 41	99 5 0	2,330	3,845	569 * 170	11	82
Do. South	16 2 0	2,590	48 3 0	1,367	2,434	965	194	108
The Nilgiris	14 6 0	9,996	58 6 0	2,798	2,486	1,757	322	1
Kollegal	2 0 0	1,132	48 0 0	3,369	1,352	850 * 347	8	41
Coimbatore, North	2 4 0	2,406	46 7 0	7,516	3,657	1,292 * 321	196	57
Do. Central	..	(g) 5	35 0 0	2,722	2,162	545 * 116	..	25
Do. South	1 2 0	(h) 2,493	21 7 0	(h) 3,785	317	627 * 234	..	165
Direction	..	.	..	..	..	24	..	..
Total	51 4 0	19,880	383 4 0	24,579	20,448	8,445	1,427	614
Grand total, Presidency	402 4 4	93,095	1,332 2 1	64,033	57,907	44,481	5,420	2,456

* Cost of establishment.
(a) Includes cost of establishment.
(b) Added or subtracted to tally with the Accountant-General's audited figures.
(c) Represents pay of establishment. (d) Cost of alignment. (e) Cost of investigation of Amerdi-Nadanur road.
(f) Cost of providing mile and furlong posts.
(g) Cost of tracing a road.
(h) The difference of Rs. 372 between the figures shown in this and Form No. 80 is due to the adjustment of the wrong debit referred to in the last year's return.
(i) Excludes Rs. 8 spent on new works in the Parlakimedi Maliahs.
(j) Excludes Rs. 40 spent on repairs in the Paralakimedi Maliahs.

Annual Form No. 71.

Forest Department, Madras Presidency.

Register of Breaches of Forest Rules during 1916–17.

District.		Cases pending from 1915–16.	New cases of the year. Injury to forest by fire.	Unauthorized felling.	Unauthorized grazing.	Other offences.	Total new cases of the year.	Total cases.	Disposed of during the year. Convictions. Cases.	Convictions. Persons.	Acquittals. Cases.	Acquittals. Persons.	Total. Cases.	Total. Persons.	Cases pending at close of year.
Northern Circle.															
Ganjām ..	A ..	(a) 34	3	76	14	12	105	139	103	327	11	48	114	375	25
	B ..	(a) 25	..	438	25	13	476	501	..	..	381 * 34	1,403 113	381 * 34	1,403 113	86
	C ..	..	21	49	..	1	71	..	..	..	..	..	..	..	..
Total ..		(b) 59	(c) 24	(d) 563	(e) 39	(f) 26	(g) 652	(h) 640	(i) 103	(j) 327	(k) 392 * 34	(l) 1,451 113	(m) 495 * 34	(n) 1 778 113	(o) 111
Vizagapatam.	A ..	(a) 25	..	62	5	11	78	103	83	275	7	40	90	315	13
	B ..	(a) 12	1	226	31	65	323	335	..	..	253 * 35	641 147	253 * 35	641 147	47
	C ..	..	5	7	2	2	16	..	..	..	..	..	..	..	..
Total ..		37	6	295	38	78	417	438	83	275	260 * 35	681 147	343 * 35	956 147	60
Gōdāvari, Upper.	A ..	3	..	14	1	..	15	18	15	57	2	2	17	59	1
	B ..	18	..	81	8	23	112	130	..	..	67 * 10	141 24	67 * 10	141 24	53
	C ..	..	19	..	..	..	19	..	..	..	..	..	..	..	..
Total ..		21	19	95	9	23	146	148	15	57	69 * 10	143 24	84 * 10	200 24	54
Gōdāvari, Lower.	A ..	(a) 45	..	35	6	8	49	94	70	268	13	52	83	320	11
	B ..	(a) 53	1	299	25	13	338	391	..	..	322 * 17	653 46	322 * 17	653 46	52
	C ..	..	..	4	..	..	4	..	..	..	..	..	..	..	..
Total ..		98	1	338	31	21	391	485	70	268	335 * 17	705 46	405 * 17	973 46	63
Kistna ..	A ..	(a) 33	..	66	56	2	124	157	108	527	31	70	139	597	18
	B ..	(a) 31	..	139	103	16	258	289	..	..	248 * 31	673 61	248 * 31	673 61	10
	C ..	..	..	22	10	..	32	..	..	..	..	..	..	..	..
Total ..		64	..	227	169	18	414	446	108	527	279 * 31	743 61	387 * 31	1,270 61	28
Kurnool, East.	A ..	(a) 7	..	12	20	2	34	41	36	86	1	16	37	102	4
	B ..	(a) 34	2	236	142	8	388	422	..	..	354 * 40	927 116	354 * 40	927 116	28
	C ..	..	..	11	..	..	11	..	..	..	..	..	..	..	..
Total ..		41	2	259	162	10	433	463	36	86	355 * 40	943 116	391 * 40	1,029 116	32
Kurnool, South.	A ..	(a) 33	2	41	5	..	48	81	63	216	8	25	71	241	10
	B ..	(a) 41	..	272	53	4	329	370	..	..	314 * 28	778 91	314 * 28	778 91	28
	C ..	..	10	36	..	..	46	..	..	..	..	..	..	..	..
Total ..		74	12	349	58	4	423	451	63	216	322 * 28	803 91	385 * 28	1,019 91	38
Kurnool, West.	A ..	9	..	54	28	1	83	92	71	203	2	11	73	214	19
	B ..	43	1	325	72	17	415	458	..	..	338 * 31	783 130	338 * 31	783 130	89
	C ..	..	93	40	..	..	133	..	..	..	..	..	..	..	..
Total ..		52	94	419	100	18	631	550	71	203	340 * 31	794 130	411 * 31	997 130	108
Total, Northern Circle.	A ..	189	5	360	135	36	536	725	549	1,959	75	264	624	2,223	101
	B ..	257	5	2,016	459	159	2,639	2,896	..	..	2,277 * 226	5,999 728	2,277 * 226	5,999 728	393
	C ..	..	148	169	12	3	332	..	..	..	..	..	..	..	..
Grand Total, Northern Circle.		446	158	2,545	606	198	3,507	3,621	549	1,959	2,352 * 226	6,263 728	2,901 * 226	8,222 728	494

(a) The difference between the closing balance of 1915–16 and opening balance of 1916–17 is due to transfer of cases from A to B.

* Cases withdrawn under the orders of the District Forest Officer or Revenue Divisional Officer.

(b) Excludes 97 cases appertaining to Parlakimedi Maliahs.
(c) Do. 3 do. do.
(d) Do. 294 do. do.
(e) Do. 23 do. do.
(f) Do. 13 do. do.
(g) Do. 333 do. do.
(h) Do. 430 do. do.
(i) Do. 53 cases convicted and 224 cases compounded by the Special Forest Officer, Parlakimedi Maliahs.
(j) Excludes 576 persons involved in the compounded cases and 150 persons involved in the convicted cases in the Parlakimedi Maliahs.

(k) Excludes 58 withdrawn cases and one acquitted case belonging to Parlakimedi Maliahs.
(l) Excludes 234 persons involved in the withdrawn cases and one person involved in the acquitted case belonging to Parlakimedi Maliahs.
(m) Excludes 336 cases belonging to the Parlakimedi Maliahs.
(n) Excludes 961 persons involved in 336 cases in Parlakimedi Maliahs.
(o) Excludes 94 pending cases in Parlakimedi Maliahs.

A = Cases taken to Court. B = Cases compounded. C = Cases undetected.

Register of Breaches of Forest Rules during 1916–17—*cont.*

District.		Cases pending from 1915–16.	New cases of the year. Injury to forest by fire.	Unauthorized felling.	Unauthorized grazing.	Other offences.	Total new cases of the year.	Total cases.	Disposed of during the year. Convictions. Cases.	Convictions. Persons.	Acquittals. Cases.	Acquittals. Persons.	Total. Cases.	Total. Persons.	Cases pending at close of year.
Central Circle.															
Bellary ..	A ..	(a) 50	..	102	61	8	171	221	195	461	23	82	218	543	3
	B ..	(a) 98	2	295	306	11	614	712	..	..	581 (b) 52	1,164 141	581 52	1,164 141	79
	C ..	..	..	5	28	..	33	..	..	..	..	..	..	..	..
Total ..		148	2	402	395	19	818	933	195	461	604 (b) 52	1,246 141	799 52	1,707 141	82
Anantapur.	A ..	30	2	343	115	13	473	503	388	1,041	59	133	447	1,174	56
	B ..	186	..	461	226	9	696	882	..	..	720	1,539	720	1,539	162
	C ..	..	206	38	159	..	403	..	..	..	..	..	..	..	..
Total ..		216	208	842	500	22	1,572	1,385	388	1,041	779	1,672	1,167	2,713	218
Guntūr ..	A ..	199	..	225	330	6	561	760	539	1,716	21	89	560	1,805	200
	B ..	208	..	541	753	14	1,308	1,516	..	..	1,269 (b) 84	3,500 250	1,269 84	3,500 250	163
	C ..	..	..	19	..	..	19	..	..	..	..	..	..	..	..
Total ..		407	..	785	1,083	20	1,888	2,276	539	1,716	1,290 (b) 84	3,589 250	1,829 84	5,305 250	363
Cuddapah, North.	A ..	37	1	101	31	2	135	172	162	379	9	17	171	396	1
	B .	73	4	387	154	12	557	630	..	..	489 (b) 40	1,331 128	489 40	1,331 128	101
	C	..	..	1	..	..	1	..	..	..	..	..	..	..	..
Total ..		(a) 110	5	489	185	14	693	802	162	379	498 (b) 40	1,348 128	660 40	1,727 128	102
Cuddapah, South.	A ..	11	..	31	14	1	46	57	52	122	4	9	56	131	1
	B ..	29	1	175	85	1	262	291	..	..	257 (b) 16	440 80	257 16	440 80	18
	C ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..		(a) 40	1	206	99	2	308	348	52	122	261 (b) 16	449 80	313 16	571 80	19
Cuddapah, West.	A ..	45	3	53	27	30	113	158	114	326	15	46	129	372	29
	B .	28	1	189	83	88	361	389	..	..	287 (b) 37	733 104	287 37	733 104	65
	C .	..	..	10	..	6	16	..	..	..	..	..	..	..	..
Total ..		(a) 73	4	252	110	124	490	547	114	326	302 (b) 37	779 104	416 37	1,105 104	94
Nellore ..	A ..	(a) 130	1	99	147	4	251	381	284	770	25	109	309	879	72
	B ..	(a) 202	1	437	277	6	721	923	..	..	696	1,720	696	1,720	227
	C ..	..	..	21	39	2	62	..	..	..	..	..	..	..	..
Total ..		(c) 332	2	557	463	12	1,034	1,304	284	770	721	1,829	1,005	2,599	299
Chingleput.	A ..	(a) 154	..	234	117	5	356	510	428	634	6	6	434	640	76
	B ..	(a) 27	..	461	350	25	836	863	..	..	787 (b) 48	1,389 83	787 48	1,389 83	28
	C ..	..	2	3	..	..	5	..	..	..	..	..	..	..	..
Total ..		181	2	698	467	30	1,197	1,373	428	634	793 (b) 48	1,395 83	1,221 48	2,029 83	104
Chittoor ..	A ..	(a) 36	..	47	26	15	88	124	101	186	19	45	120	231	4
	B ..	(a) 60	..	745	403	19	1,167	1,227	..	..	1,038 (b) 65	1,794 127	1,038 65	1,794 127	124
	C ..	..	120	..	..	..	120	..	..	..	..	..	..	..	..
Total ..		96	120	792	429	34	1,375	1,351	101	186	1,057 (b) 65	1,839 127	1,158 65	2,025 127	128
Total, Central Circle.	A ..	692	7	1,235	868	84	2,194	2,886	2,263	5,635	181	536	2,444	6,171	442
	B ..	911	9	3,691	2,637	185	6,522	7,433	..	..	6,124 (b) 342	13,610 913	6,124 342	13,610 913	967
	C ..	..	328	97	226	8	659	..	..	..	..	..	..	..	..
Grand Total, Central Circle.		(c) 1,603	344	5,023	3,731	277	9,375	10,319	2,263	5,635	6,305 (b) 342	14,146 913	8,568 342	19,781 913	1,409

A.= Cases taken into Court. B = Cases compounded by the District Forest Officer or Revenue Divisional Officer.
C = Cases undetected.

(a) Variations between the closing balance of 1915–16 and the opening balance of 1916–17 are due to transfer of cases between A and B and addition of case in Nellore.

(b) Cases withdrawn under the orders of the District Forest Officer or Revenue Divisional Officer. (c) Revised figure.

Register of Breaches of Forest Rules during 1916-17—*cont.*

District.	Cases pending from 1915-1916.	New cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling.	Unathorized grazing.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Southern Circle.														
North Vellore. A ..	39	2	118	58	1	179	218	98	299	10	25	108	324	110
B ..	140	..	666	379	19	1,064	1,204	1,033	2,089	* 29	* 85	1,033 * 29	2,089 85	142
C ..	..	96	1	5	..	102	..	..	..	..	..	..	..	..
Total ..	179	98	785	442	20	1,345	1,422	1,131	2,388	10 * 29	25 * 85	1,141 * 29	2,413 85	252
South Vellore. A ..	49	..	71	9	8	88	137	101	258	1 * 5	4 * 16	102 * 5	262 * 16	30
B ..	89	1	473	189	2	665	754	641	1,467	* 11	* 29	641 * 11	1,467 29	102
C ..	..	52	2	..	..	54	..	..	..	..	..	..	..	..
Total ..	(*a*) 138	53	546	198	10	807	891	742	1,725	1 * 16	4 45	743 * 16	1,729 45	132
West Vellore. A ..	34	..	52	12	5	69	103	86	258	2 * 4	5 9	88 * 4	263 * 9	11
B ..	37	..	304	83	27	414	451	349	759	* 21	66	349 * 21	759 * 66	81
C ..	..	22	..	..	..	22	..	..	..	..	..	..	..	..
Total	71	22	356	95	32	505	554	435	1,017	2 * 25	5 75	437 * 25	1,022 75	92
South Arcot. A ..	400	..	570	119	21	710	1,110	899	1,822	16 * 25	247 102	915 * 25	2,069 * 102	170
B ..	326	..	1,377	220	27	1,624	1,950	1,389	2,274	* 65	130	1,389 * 65	2,274 130	496
C ..	..	7	50	..	..	57	..	..	..	..	..	..	..	..
Total ..	(*a*) 726	7	1,997	339	48	2,391	3,060	2,288	4,096	16 * 90	247 232	2,304 * 90	4,343 232	666
North Salem. A ..	35	..	259	63	10	332	367	325	832	15	45	340	877	27
B ..	248	..	825	190	15	1,030	1,278	980	1,385	* 73	258	980 * 73	1,385 258	225
C ..	..	78	18	2	..	98	..	..	..	..	..	..	..	..
Total ..	283	78	1,102	255	25	1,460	1,645	1,305	2,217	15 * 73	45 258	1,320 * 73	2,262 258	252
South Salem A ..	187	1	146	33	6	186	373	291	1,383	20 * 37	107 205	311 * 37	1,490 * 205	25
B ..	198	..	514	99	39	652	850	567	1,325	* 27	245	567 * 27	1,325 * 245	256
C ..	..	53	6	2	..	61	..	..	..	..	..	..	..	..
Total ..	385	54	666	134	45	899	1,223	858	2,708	20 * 64	107 450	878 * 64	2,815 450	281
Trichinopoly. A ..	200	..	346	73	4	423	623	464	1,044	19 * 28	100 * 111	483 * 28 (*b*) 24	1,144 * 111 ..	88
B ..	237	..	822	113	13	948	1,185	713	1,212	*121	249	713 * 121	1,212 * 249	351
C ..	..	5	15	..	..	20	..	..	..	..	..			
Total ..	437	5	1,183	186	17	1,391	1,808	1,177	2,256	19 *149	100 360	1,196 * 149 (*b*) 24	2,356 360 ..	439
Madura .. A ..	544	3	710	99	22	834	1,378	1,207	4,732	46 * 14	203 77	1,253 * 14	4,935 * 77	111
B ..	203	1	532	151	13	697	900	416	636	129 * 62	182 * 274	545 * 62	818 274	293
C ..	(*c*) 1	98	17	..	1	116	..	..	..	..	..	..	..	..
Total ..	748	102	1,259	250	36	1,647	2,278	1,623	5,368	175 * 76	385 351	1,798 * 76	5,753 351	404
Tinnevelly. A ..	48	1	133	31	6	171	219	180	426	17	45	197	471	22
B ..	98	1	546	229	7	783	881	739	1,454	* 8	* 15	739 * 8	1,454 15	134
C ..	..	28	4	..	..	32	..	..	..	..	..	..	..	..
Total ..	146	30	683	260	13	986	1,100	919	1,880	17 * 8	45 15	936 * 8	1,925 15	156
Total, Southern Circle. A ..	1,536	7	2,405	497	83	2,992	4,528	3,651	11,054	146 *113	781 520	3,797 * 113 (*b*) 24	11,835 520	594
B ..	1,576	3	6,059	1,653	162	7,877	9,453	6,827	12,601	129 *417	182 1,351	6,956 * 417	12,783 1,351	2,080
C ..	(*c*) 1	439	113	9	1	562	..	..	..	..	..			
Grand Total, Southern Circle.	3,113	449	8,577	2,159	246	11,431	13,981	10,478	23,655	275 *530	963 1,871	10,753 * 530 (*b*) 24	24,618 1,871	2,674

(*a*) Includes 16 cases transferred from South Arcot to South Vellore.
(*b*) Cases transferred to Public Works Department.
(*c*) One undetected case was wrongly included in cases compounded and shown as balance last year.
* Cases withdrawn under the orders of the District Forest Officer or the Revenue Divisional Officer.

Register of Breaches of Forest Rules during 1916–17—*cont.*

District.		Cases pending from 1915–16.	New cases of the year. Injury to forest by fire.	Unauthorized felling.	Unauthorized grazing.	Other offences.	Total new cases of the year.	Total cases.	Disposed of during the year. Convictions. Cases.	Convictions. Persons.	Acquittals. Cases.	Acquittals. Persons.	Total. Cases.	Total. Persons.	Cases pending at close of the year.
Western Circle.															
Mangalore, North.	A ..	10	11	62	11	8	92	102	57	205	11	22	68	227	34
	B ..	61	16	468	120	41	645	706	..	..	569 * 85	1,295 177	569 85	1,295 177	52
	C ..	..	80	..	..	..	80	..	..	..	..	..	..	..	..
Total	..	71	107	530	131	49	817	808	57	205	580 * 85	1,317 177	637 85	1,522 177	86
Mangalore, South.	A ..	35	17	30	4	8	59	94	66	130	5	13	71	143	23
	B ..	55	44	337	62	41	484	539	..	..	448 * 19	807 41	448 19	807 41	72
	C ..	..	38	..	..	..	38	..	..	..	..	..	..	..	..
Total	..	90	99	367	66	49	581	633	66	130	453 * 19	820 41	519 * 19	950 41	95
Malabar, North.	A ..	1	..	..	..	..	..	1	..	..	.. * 1	.. 7	.. 1	.. 7	..
	B ..	2	4	26	4	3	37	39	..	..	31 * 6	42 25	31 6	42 25	2
	C ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	3	4	26	4	3	37	40	..	..	31 * 7	42 32	31 7	42 32	2
Malabar, South.	A ..	(a) 1	..	..	..	1	1	2	2	4	..	..	2	4	..
	B ..	(a) 1	..	4	6	33	43	44	..	..	30 * 2	42 21	30 * 2	42 21	12
	C ..	..	2	2	..	1	5	..	..	..	..	..	..	..	..
Total	..	2	2	6	6	35	49	46	2	4	30 * 2	42 21	32 * 2	46 21	12
The Nilgiris.	A ..	(a) 41	..	28	41	15	84	125	98	250	1	4	99	254	26
	B ..	(a) 15	..	95	96	13	204	219	..	..	142 * 20	338 47	142 * 20	338 47	57
	C ..	..	32	..	1	..	33	..	..	..	..	..	..	..	..
Total	..	56	32	123	138	28	321	344	98	250	143 * 20	342 47	241 * 20	592 47	83
Kollegal.	A ..	(a) 19	..	25	14	1	40	59	48	113	10	34	58	147	1
	B ..	(a) 10	..	64	12	2	78	88	..	..	87	226	87	226	1
	C ..	..	27	5	7	2	41	..	..	..	..	..	..	..	..
Total	..	29	27	94	33	5	159	147	48	113	97	260	145	373	2
Coimbatore, North.	A ..	36	1	47	12	5	65	101	87	309	4	5	91	314	10
	B ..	42	..	368	167	7	542	584	..	..	467 * 27	1,153 153	467 * 27	1,153 153	90
	C ..	..	74	..	..	..	74	..	..	..	..	..	..	..	..
Total	..	78	75	415	179	12	681	685	87	309	471 * 27	1,158 153	558 * 27	1,467 153	100
Coimbatore, Central.	A ..	(a) 48	..	51	12	39	102	150	100	294	14 * 5	32 13	114 * 5	326 13	31
	B ..	(a) 35	5	519	57	84	665	700	..	..	642 * 20	1,157 60	642 * 20	1,157 60	38
	C ..	..	26	30	2	..	58	..	..	..	..	..	..	..	..
Total	..	83	31	600	71	128	825	850	100	294	656 * 25	1,189 73	756 * 25	1,483 73	69
Coimbatore, South.	A ..	23	2	32	2	16	52	75	68	216	2	5	70	221	5
	B ..	35	..	135	40	51	226	261	..	..	257	677	257	677	4
	C ..	..	23	3	..	..	26	..	..	..	..	..	..	..	..
Total	..	58	25	170	42	67	304	336	68	216	259	682	327	898	9
Total, Western Circle.	A ..	214	31	275	96	93	495	709	526	1,521	47 * 6	115 20	573 * 6	1,636 20	130
	B ..	256	69	2,016	564	275	2,924	3,180	..	..	2,673 * 179	5,737 524	2,673 * 179	5,737 540	328
	C ..	..	302	40	10	3	355	..	..	..	..	..	..	..	..
Grand Total, Western Circle		470	402	2,331	670	371	3,774	3,889	526	1,521	2,720 * 185	5,852 544	3,246 * 185	7,373 544	458
Total, Presidency.	A ..	2,631	50	4,275	1,596	296	6,217	8,848	6,989	20,169	449 * 119	1,696 540	7,438 * 119 (b) 24	21,865 540	1,267
	B ..	3,000	86	13,782	5,313	781	19,962	22,962	6,827	12,601	11,203 * 1,164	25,528 3,516	18,030 * 1,164	38,129 * 3,516	3,768
	C ..	1	1,217	419	257	15	1,908	..	..	..	..	..	..	..	..
Grand total, Presidency.		5,632	1,353	18,476	7,166	1,092	28,087	31,810	13 816	32,770	11,652 * 1,283	27,224 4,056	25,468 * 1,283 (b) 24	59,994 4,056	5,035

A = Cases taken into Court. B = Cases compounded. C = Cases undetected.

(a) The variations between the closing balance of 1915–16 and these figures are due to transfers between heads A and B.

* Withdrawn under the orders of the District Forest Officer or Revenue Divisional Officer.

(b) Transferred to the Public Works Department.

ANNUAL FORM No. 72.

Forest Department, Madras Presidency.

Area of forest tracts protected from fire during 1916–17.

District.	Forest tracts.	Area protected during the previous year.	During the year under report. Area attempted to be protected.	Fires.	Actually protected.	Cost during the year under report.
	Northern Circle.	ACS.	ACS.	ACS.	ACS.	RS.
Ganjām ..	Special protection ..	85,231	86,440	53	86,387	4,872
	General do. ..	154,883	171,939	516	171,423	374
	Total, Ganjām ..	(a) 240,114	(b) 258,379	(c) 569	(d) 257,810	(e) 5,246
Vizagapatam.	Special protection ..	* 65,436	66,217	9	66,208	1,596
	General do. ..	* 112,107	116,748	17	116,731	166
	Total, Vizagapatam ..	177,543	182,965	26	182,939	1,762
Gōdāvari, Upper.	Special protection ..	399,769	536,456	27,302	509,154	† 7,873
	General do. ..	..	..	..	..	..
	Total, Gōdāvari, Upper ..	399,769	536,456	27,302	509,154	7,873
Gōdāvari, Lower.	Special protection ..	203,420	211,454	268	211,186	4,657
	General do. ..	29,774	26,261	7	26,254	145
	Total, Gōdāvari, Lower ..	233,194	237,715	275	237,440	4,802
Kistna ..	Special protection ..	43,079	24,346	86	24,260	759
	General do. ..	1,609	26,582	..	26,582	734
	Total, Kistna ..	44,688	50,928	86	50,842	1,493
Kurnool, East.	Special protection ..	102,392	201,516	34,330	167,186	10,513
	General do. ..	437,043	437,043	40,828	396,215	660
	Total, Kurnool, East ..	539,435	638,559	75,158	563,401	11,173
Kurnool, South.	Special protection ..	264,005	355,684	78,481	277,203	10,117
	General do. ..	126,007	134,755	12,282	122,473	..
	Total, Kurnool, South ..	390,012	490,439	90,763	399,676	10,117
Kurnool, West.	Special protection ..	104,161	146,635	18,996	127,639	11,995
	General do. ..	366,636	407,444	32,467	374,977	..
	Total, Kurnool, West ..	470,797	554,079	51,463	502,616	11,995
Total ..	Special protection ..	1,267,493	1,628,748	159,525	1,469,223	52,382
	General do. ..	1,228,059	1,320,772	86,117	1,234,655	2,079
	Grand total ..	2,495,552	2,949,520	245,642	2,703,878	54,461
	Central Circle.					
Bellary ..	Special protection	44,642	42,764	7,633	35,131	2,050
	General do. ..	796	2,972	793	2,179	..
	Total ..	45,438	45,736	8,426	37,310	2,050
Anantapur ..	Special protection ..	360,701	371,372	80,759	290,613	4,479
	General do. ..	45,812	107,676	10,924	96,752	..
	Total ..	406,513	479,048	91,683	387,365	4,479
Guntūr ..	Special protection ..	13,284	..	..	..	..
	General do. ..	20,984	..	..	..	..
	Total ..	34,268	..	..	..	..
Cuddapah, North.	Special protection ..	143,209	248,454	138,810	109,644	4,180
	General do. ..	97,813	142,336	26,604	115,732	987
	Total ..	241,022	390,790	165,414	225,376	5,167
Cuddapah, South.	Special protection ..	172,141	218,072	68,871	149,201	2,059
	General do. ..	36,406	45,278	13,207	32,071	..
	Total ..	208,547	263,350	82,078	181,272	2,059
Cuddapah, West.	Special protection ..	191,620	214,691	57,225	157,466	2,495
	General do. ..	90,921	95,357	8,870	86,487	789
	Total ..	282,541	310,048	66,095	243,953	3,284

* The difference between the closing balance of the previous year and the opening balance of the year under report is due to transfer of areas from general to special protection and vice versa.

† Represents rewards for results of 1915–16.

(a) Excludes 100,192 acres belonging to Parlākimedi Maliahs.
(b) Do. 125,450 acres do. do.
(c) Do. 2,953 acres do. do.
(d) Do. 122,497 acres do. do.
(e) Do. 558 rupees spent on fire protection in the Parlākimedi Maliahs.

Area of forest tracts protected from fire during 1916-17—*cont.*

District.	Forest tracts.		Area protected during the previous year.	During the year under report. Area attempted to be protected.	During the year under report. Fires.	During the year under report. Actually protected.	Cost during the year under report.
			ACS.	ACS.	ACS.	ACS.	RS.
	Central Circle—cont.						
Nellore ..	Special protection	..	125,422	136,843	6,801	130,042	1,486
	General do.	..	..	..	..	..	..
	Total	..	125,422	136,843	6,801	130,042	1,486
Chingleput..	Special protection	..	25,389	25,523	7	25,516	930
	General do.	..	107,442	106,695	..	106,695	..
	Total	..	132,831	132,218	7	132,211	930
Chittoor ..	Special protection	..	121,315	161,963	7,410	154,553	1,225
	General do.	..	386,799	369,742	13,130	356,612	..
	Total	..	508,114	531,705	20,540	511,165	1,225
Total ..	Special protection	..	1,197,723	1,419,682	367,516	1,052,166	18,904
	General do.	..	786,973	870,056	73,528	796,528	1,776
	Total	..	1,984,696	2,289,738	441,044	1,848,694	20,680
	Southern Circle.						
Vellore, North.	Special protection	..	31,584	34,532	3,480	31,052	684
	General do.	..	259,737	268,762	4,585	264,177	..
	Total	..	291,321	303,294	8,065	295,229	684
Vellore, South.	Special protection	..	43,570	100,997	1,296	99,701	337
	General do.	..	168,978	144,515	2,850	141,665	(*a*) — 10
	Total	..	212,548	245,512	4,146	241,366	327
Vellore, West.	Special protection	..	56,185	101,285	56	101,229	42
	General do.	..	139,149	105,192	866	104,326	..
	Total	..	195,334	206,477	922	205,555	42
South Arcot *cum* Tanjore	Special protection	..	13,536	13,541	2	13,539	338
	General do.	..	212,011	202,684	32	202,652	..
	Total	..	225,547	216,225	34	216,191	338
Salem, North	Special protection	..	52,822	84,910	415	84,495	2,164
	General do.	..	460,579	354,949	4,114	350,835	
	Total	..	513,401	439,859	4,529	435,330	2,164
Salem, South	Special protection	..	196,843	244,184	916	243,268	1,912
	General do.	..	164,945	130,171	673	129,498	..
	Total	..	361,788	374,355	1,589	372,766	1,912
Trichinopoly.	Special protection	..	87,872	88,355	18	88,337	1,118
	General do.	..	117,970	117,993	28	117,965	..
	Total	..	205,842	206,348	46	206,302	1,118
Madura ..	Special protection	..	166,111	181,435	3,749	177,686	5,334
	General do.	..	228,748	240,915	3,315	237,600	..
	Total	..	394,859	422,350	7,064	415,286	5,334
Tinnevelly	Special protection	..	34,100	35,377	2,392	32,985	4,764
	General do.	..	200,979	206,712	5,285	201,427	..
	Total	..	235,079	242,089	(*b*) 7,677	(*b*) 234,412	4,764
	Total, Special protection.		682,623	884,616	12,324	872,292	16,693
	Total, General protection.		1,953,096	1,771,893	21,748	1,750,145	(*a*) — 10
	Grand total (Special and General protection).		2,635,719	2,656,509	34,072	2,622,437	16,683

(*a*) Deducted as per Accountant-General's audited figure.

(*b*) Corrected in the Board's office.

Area of forest tracts protected from fire during 1916–17—*cont.*

District.	Forest tracts.	Area protected during the previous year.	During the year under report. Area attempted to be protected.	Fires.	Actually protected.	Cost during the year under report.
	Western Circle.	ACS.	ACS.	ACS.	ACS.	RS.
Mangalore, North.	Special protection ..	38,973	37,163	489	36,674	1,146 * + 381
	General do. ..	191,780	194,897	1,524	193,373	286
	Total ..	230,753	232,060	2,013	230,047	1,813
Mangalore, South.	Special protection ..	106,485	107,342	1,759	105,583	2,197 * + 295
	General do. ..	170,405	171,458	2,610	168,848	868
	Total ..	276,890	278,800	4,369	274,431	3,360
Malabar, North.	Special protection ..	134,679	139,089	147	138,942	6,237
	General do. ..	..	..	..	..	..
	Total ..	134,679	139,089	147	138,942	6,237
Malabar, South.	Special protection ..	80,369	104,883	370	104,513	3,671
	General do. ..	..	..	..	..	..
	Total ..	80,369	104,883	370	104,513	3,671
The Nilgiris.	Special protection ..	63,267	79,718	679	79,039	3,975
	General do. ..	..	..	..	..	..
	Total ..	63,267	79,718	679	79,039	3,975
Kollegal ..	Special protection ..	65,708	39,340	767	38,573	2,885
	General do. ..	363,196	399,490	15,575	383,915	..
	Total ..	428,904	438,830	16,342	422,488	2,885
Coimbatore, North.	Special protection ..	24,370	43,976	7,020	36,956	2,010
	General do. ..	299,032	542,196	17,961	524,235	..
	Total ..	323,402	586,172	24,981	561,191	2,010
Coimbatore, Central.	Special protection ..	85,384	84,549	384	84,165	3,264
	General do. ..	136,381	147,197	1,010	146,187	..
	Total ..	221,765	231,746	1,394	230,352	3,264
Coimbatore, South.	Special protection ..	45,338	47,522	151	47,371	2,142
	General do. ..	179,451	180,897	428	180,469	..
	Total ..	224,789	228,419	579	227,840	2,142
	Total, Special, Western Circle.	644,573	683,582	11,766	671,816	28,203
	Total, General, Western Circle.	1,340,245	1,636,135	39,108	1,597,027	1,154
	Grand total ..	1,984,818	2,319,717	50,874	2,268,843	29,357
	Grand total, Special protection.	3,792,412	4,616,628	551,131	4,065,497	1,16,182
	Presidency, General protection.	5,308,373	5,598,856	220,501	5,378,355	4,999
	Grand total, Presidency ..	9,100,785	10,215,484	771,632	9,443,852	1,21,181

* Fire-tracing Mysore-South Kanara boundary.

Annual Form No. 73.

Forest Department, Madras Presidency.

Area closed and open to grazing during 1916–17.

District.	Closed to all animals.		Open to grazing.			
			Of all animals.		Of all animals except browsers (goats and sheep).	
	Whole year.	Part of year.	Whole year.	Part of year.	Whole year.	Part of year.
	Northern Circle.					
	Reserved forests.					
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Ganjām	81	..	(a) & (e) 478	..	..	..
Vizagapatam	15	..	(c) 297	..	..	..
Gōdāvari, Upper	..	..	(a) 434	..	..	..
Do. Lower	59	..	(b) 345	..	..	..
Kistna	67	9	(a) 190	..	..	..
Kurnool, East	315	..	(a) 685	..	..	..
Do. South	556	..	(a) 210	..	..	..
Do. West	198	..	(a) 668	..	..	..
Total ..	1,291	9	3,307	..	..	..
	Reserved lands.					
Ganjām	..	..	(a) 65	..	..	..
Vizagapatam	..	..	(a) 2	..	..	..
Gōdāvari, Upper	..	..	(a) 344	..	..	..
Do. Lower	..	..	(a) 75	..	..	..
Kistna	..	..	(a) 1	..	..	..
Kurnool, East	..	..	..	..	..	..
Do. South	..	..	..	..	..	..
Do. West	..	..	..	..	..	..
Total ..	..	..	487	..	..	..
	Central Circle. *					
	Reserved forests.					
Bellary	62	..	543	..	..	..
Anantapur	162	31	556	31	..	..
Guntūr	49	..	..	764	..	..
Cuddapah, North	72	..	592	..	..	..
Do. South	96	..	366	..	..	..
Do. West	47	..	631	..	..	..
Nellore	212	..	..	508	..	..
Chingleput	68	8	123	8	..	..
Chittoor	144	..	687	..	..	..
Total ..	912	39	3,498	1,311	..	..
	Reserved lands.					
Bellary	63	..	..	..	..	..
Cuddapah, West	3	..	..	..	..	..
Nellore	2	..	..	..	..	..
Total ..	68	..	..	..	..	..
	Southern Circle. †					
	Reserved forests.					
North Vellore	48	..	426	..	..	..
South do.	54	..	354	..	..	..
West do.	21	..	307	..	..	..
South Arcot *cum* Tanjore	36	23	279	..	..	..
North Salem	95	1	704	..	..	..
South do.	81	..	493	..	..	..
Trichinopoly	83	..	248	..	..	..
Madura	93	..	567	..	..	..
Tinnevelly	236	62	127	..	2	2
Total ..	747	86	3,505	..	2	2
	Reserved lands.					
North Vellore	..	..	2	..	..	..
West do.	..	..	(d)	..	..	..
North Salem	..	..	38	..	..	..
South do.	6	..	12	..	..	..
Trichinopoly	..	..	6	..	..	..
Madura	..	..	(d)	..	..	..
Total ..	6	..	58	..	..	..

(a) Sheep are allowed to graze over the whole area. (b) Sheep are allowed to graze in 117 square miles.
(c) Sheep are allowed to graze in 295 square miles.
(d) Area omitted being less than a square mile.
(e) Excludes 196 square miles of forest area in Parlākimedi Maliahs, closed to goats only.

* *Note.*—Goats are entirely excluded from all the reserves of the circle except in portions of certain reserves used as artillery practice ground in Chingleput district and sheep are excluded in a portion of Guntūr district.

† Open to grazing of all animals except goats. Goat browsing is strictly prohibited in all districts in this circle.

Areas closed and open to grazing during 1916–17—*cont.*

District.	Closed to all animals.		Open to grazing.			
			Of all animals.		Of all animals except browsers (goats and sheep).	
	Whole year.	Part of year.	Whole year.	Part of year.	Whole year.	Part of year.
WESTERN CIRCLE.						
Reserved forests.						
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.		
Mangalore, North	12	..	350	..	..	..
Do. South	1	..	435	..	..	..
Malabar, North	12	..	251	..	..	..
Do. South	144	..	..	..	..	..
The Nilgiris	23	..	442	..	..	..
Kollegal	81	..	650	..	..	..
Coimbatore, North	45	2	867	2	..	..
Do. Central	137	38	187	..	..	..
Do. South	85	2	367	..	..	..
Total	540	42	3,549	2	..	..
Reserved lands.						
Mangalore, North	..	..	..*	..	..	..
Malabar, North	..	..	..*	..	..	..
Do. South	20	..	..	..	..	..
The Nilgiris	5	..	79	..	..	..
Kollegal	..	..	..*	..	..	..
Coimbatore, North	..	..	1	..	..	..
Do. Central	..	..	..	..	..	..
Total	25	..	80	..	..	..
Grand total, Presidency	3,589	176	14,484	1,313	2	2

* Less than one square mile.

Forest Department, Madras

Return of grazing in the

District.	Grazing on payment.									
	At enhanced or special rates.					At full rates.				
	Buffaloes.	Cows and bullocks.	Sheep.	Other animals.	Fees received.	Buffaloes.	Cows and bullocks.	Sheep.	Other animals.	Fees received.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
SOUTHERN CIRCLE.					RS.					RS.
Vellore, North	..	..	..	..	..	1,617	58,124	65,724	..	17,666 (a) 3,505
Do. South	..	10,063	..	..	2,516	3,697	50,272	26,985	..	(c) 13,369 (r) + 15
Do. West	..	13,046	..	..	3,261	3,058	47,338	14,649	..	(d) 11,477
South Arcot *cum* Tanjore.	..	168	(g) 926	..	(g) 168	3,176	54,614	100,468	..	20,850 (h) 374 (a) 385
Salem, North	(n) 2,190	(o) 76,926	(p) 26,958	..	25,454	53	16,163	7,882	..	3,789 (k) 244
Do. South	..	(i) 38	..	..	14	673	77,526	23,390	..	16,981 (j) 3 (k) 3 (l) 10
Trichinopoly	(m) 104	(m) 3,883	(m) 11,361	..	3,664	157	21,375	39,258	..	7,747 (a) 9,957
Madura	452	60,682	46,868	322	21,336 (e) 1	..	..	..	..	..
Tinnevelly	..	..	..	..	..	732	18,787	18,072	..	5,491 (a) 525 (f) 180 (r) —531
Total ..	2,746	164,806	86,113	322	56,414	13,163	344,199	296,428	..	1,12,040
WESTERN CIRCLE.										
Reserved Forests.										
Mangalore, North ..	..	..	..	..	..	2,042	17,322	..	..	4,014 (h) 2
Do. South ..	..	..	..	..	.	3,359	19,625	..	..	4,939
Malabar, North	..	..	..	..	..	3,956	8,203	..	..	3,022
Do. South	..	..	..	..	..	..	..	..	..	(a) 2
The Nilgiris	..	† 999	..	..	500	12,889 (b) 14	25,274 (b) 116	S 2,142	..	9,787 (a) 165
Kollegal *	3,119	69,524	S 5,005	..	19,566	..	..	..	..	..
Coimbatore, North † ..	5,527	65,272	S 21,308	..	43,490 (k) 566 (a) 979	..	..	..	..	..
Do. Central ..	..	..	..	..	..	284	20,991	S 13,640	..	5,321 (a) 1,020 (c) 1,074
Do South ..	..	..	..	..	..	370	8,861	S 140	(d) 1	(i) 290 1,823 (a) 164 (c) 335
Total ..	8,646	135,795	26,313	..	65,101	22,914	100,392	15,922	1	31,958
Reserved Lands.										
The Nilgiris	..	† 426	..		213	831	1,306	..	..	(j) 557
Total, Western Circle ..	..	..		..	..	..	..	..	..	..
Grand Total, Presidency..	32,657	451,133	276,149	322	2,68,988	97,710	858,741	957,633	1	4,50,741

Notes for S.C.—The enhanced or special rates are : buffaloes As. 8 ; cows bullocks or other animals As. 4 ; and sheep As. 2.
The full rates are As. 6 per buffalo, As. 3 per cow, bullock or other animal and As. 1–6 per sheep.
The privilege rates are half the full rates.

(a) Collection from panchayatdars.
(b) Free removal of grass.
(c) Includes excess collection of Rs. 27.
(d) Includes excess collection of Rs. 81.
(e) Fee for permit lost.
(f) Lease amount for grazing in Kavalkuttiparambu reserved forest.
(g) 310 sheep at $2\frac{1}{2}$ annas each and 616 sheep at 2 annas each.
(h) Lease amount of grazing in certain reserves.
(i) At 6 annas each.
(j) Grazing assessment for the Malayali cattle on the Chitteris as per B.P. Forest No. 142, dated 6th October 1915.
(k) Penning license fee.
(l) Value of grass.
(m) The enhanced rates are double the full rates.
(n) 19 buffaloes at 1 rupee each and 2,171 buffaloes at 8 annas each.
(o) 6,294 cows at 8 annas each and 70,632 cows at 4 annas each.
(p) 1,395 sheep at 4 annas each and 25,563 sheep at 2 annas each.
(q) Includes excess collection of 4 annas.
(r) Added or subtracted to tally with Accountant-General's audited figure.

S = Sheep.

Notes for W.C.—The full rates are As. 6 per buffalo, As. 3 per cow, bullock or other animals and As. 1–6 per sheep.
* Annas 8 per buffalo, As. 4 per cow, bullock or other animals and As. 2 per sheep.
† Rupee 1 per buffalo, As. 8 per cow, bullock or other animals and As. 4 per sheep.

(a) Sale-proceeds of fodder grass.
(b) Calves, half rate.
(c) Revenue from reserves handed over to panchayat management.
(d) Elephants at Rs. 10.
(e) Annas 3 per 100 per diem.
(f) Buffaloes, cows, etc., brought for a cattle fair charged without distinction at a uniform rate of As. 2 per head.
(g) Elephant.
(h) Value of missing permits recovered.
(i) Revenue by lease of the right to graze in certain reserves.
(j) Includes Rs. 2 wrongly credited to II (e) instead of II (d)
(k) The difference between the ordinary and enhanced rates. The number of cattle concerned were included in the last year's return.

Presidency.

State forests during 1916–17—*cont.*

Number of animals — At privileged rates — Buffaloes. (12)	Cows and bullocks. (13)	Sheep. (14)	Other animals. (15)	Fees received. — Actual. (16)	Fees received. — Value at full rates. (17)	Grazing free. Number of animals. By right under settlement. — Buffaloes. (18)	Cows and bullocks. (19)	Sheep. (20)	Other animals. (21)	Value of fees at full rates. (22)	During pleasure of Government or otherwise than under settlement. — Buffaloes. (23)	Cows and bullocks. (24)	Sheep. (25)	Other animals. (26)	Value of fees at full rates. (27)	Total value of fees at full rates. (28)	Grand total of value at full rates. (29)
				RS.	RS.										RS.	RS.	RS.
96	969	..	..	109	218	..	..	..	..	..	..	..	..	..	(b) 2,304	(b) 2,304	23,693
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15,900
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14,738
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	(b) 19	(b) 19	21,796
..	..	..	..	..	..	..	..	..	..	..	..	150	..	..	28	28	29,515
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17,011
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21,368
..	..	..	..	..	..	..	..	..	..	..	356	3,033	192	..	960	960	22,297
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,665
96	969	..	..	109	218	..	..	..	..	..	356	3,183	192	..	3,311	3,311	1,71,988
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,016
..	..	..	(f)20,352	2,544	(f)2,544	..	..	..	..	..	..	..	..	..	..	..	7,483
..	..	..	..	..	..	..	..	..	..	..	..	..	..	(g) 1	91	91	3,113
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
..	(e) 5,814	S 47,200(e)	..	202	5,515	..	..	..	..	..	2,461	..	..	..	923	923	16,890
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19,566
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	45,035
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,705
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,322
..	5,814	47,200	20,352	2,746	8,059	..	..	..	..	..	2,461	..	..	1	1,014	1,014	1,06,132
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	770
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15,851	111,204	83,206	20,352	20,596	41,262	649	2,911	8,682	0	1,603	9,273	69,032	2,573	1	19,962	22,438	764,816

Abstract of animals licensed to graze on payment.

Circle.	Buffaloes.	Bullocks and cows.	Sheep.	Goats.	Other animals.	Total.
Northern Circle	61,240	303,678	223,406	..	..	588,324
Central Circle	36,582	363,693	621,194	412	..	1,021,881
Southern Circle	16,005	309,974	382,541	..	322	708,842
Western Circle	32,391	243,733	89,435	..	20,353	385,912
Grand Total, Presidency ..	146,218	1,221,078	1,316,576	412	20,675	2,704,959

ANNUAL

Forest Department,

Return of grazing in the

FORM No. 74.

Madras Presidency.

State forests during 1916–17.

Districts.	Grazing on payments. At enhanced rates. Buffaloes.	Cows and bullocks.	Goats and sheep.	Other animals.	Fees received.	At full rates. Buffaloes.	Cows and bullocks.	Goats and sheep.	Other animals.	Fees received.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
NORTHERN CIRCLE.					RS.					RS.
Ganjam	..	..	..	..	..	(a) (r)9,271	(a)(s)33,962	(a) S 126	.. Fodder grass.	(t) 9,856 180
Vizagapatam ..	(b) 237	(b) 3,257	(b) S 3,319	..	1,348	(a) 1,123	(a) 16,348	(a) S 832	..	3,564
Gōdāvari, Upper..	..	..	..	..	..	..	..	..	..	..
Do. Lower ..	(d) 1,056	(d) 442	..	..	958	(e) 5,990	(e) 5,226	(e) S 170	.. Fodder grass.	4,318 120
Kistna	(h) 309	(h) 4,861 (j) 1,973	(h)S 2,957	..	4,582	(a) 3,107	(a) 16,427	(a)S 12,892	.. Fodder grass. Panchayat reserve.	5,454 246 1,620
Kurnool, East ..	(b) 3,438 (k) 2,190	(b) 27,585 (k) 12,956	(b) S 44,125 (k) S 110	.. ..	29,332 ..	(a) 1,275 ..	(a) 5,494 ..	.. (a)S 27,675	..	4,103
Do. South ..	..	..	..	..	..	(l) 560	(l) 6,184	(l) S 6,022	Fodder grass.	2,579 38
Do. West ..	(b) 4,932 (k) 47	(b) 12,975 (k) 4,649	(b) S 14,772 (k) S 90	.. ..	7,556 4,746	(a) 4,649	(a) 35,989	(a)S 73,825	..	15,412
Total ..	12,209	68,698	S 65,373	..	48,522	25,975	119,630	S 121,542	..	47,490
Unreserved lands.										
Gōdāvari, Upper..	(o) 185	(o) 3,334	..	..	1,134	..	..	..	..	..
Do. Lower..	(d) 330	(d) 45	..	..	264	(e) 5,986	(e) 8,245	..	.. Fodder grass.	5,054 1,872
Kistna	..	..	..	..	..	(a) 800	(a) 200	(a) S 640	.. Fodder grass.	397 8
Total ..	515	3,379	..	..	1,398	6,786	8,445	S 640	..	7,331
Grand total ..	12,724	72,077	S 65,373	..	49,920	32,761	128,075	S 122,182	..	54,821
CENTRAL CIRCLE.										
Bellary	39	85	.. .. ..	.. .. ..	61	11,655	46,281	S 88,328	.. Fodder grass. Panchayat fees.	21,329 2,000 11,825
Anantapur ..	.. ..	.. ..	.. ..	.. ..	.. (a)	5,000 128	75,459 1,440	S 184,372 S 3,189	.. Fodder grass. Panchayat fees.	33,617 2,298 605
Guntūr	(b) 5,835 (c) 2,558	59,718 4,019	S 64,152 S 31,454	.. ..	77,598 6,216	..	.. ..	.. ..	Do. Fodder grass.	6,284 1,793
Cuddapah, North.	(d) 109 (e) .. (f) ..	6,702 353 19	S 925	..	7,487	4,237	13,995	S 53,568	.. Penning fees.	9,235 27
Do. South.	(i) .. (j) ..	847 2,632	.. S 1,115	..	3,239	673	16,999	S 22,248	.. Penning fees.	5,525 15
Do. West.	(k) .. (l) .. (m) ..	2,091 210 30	.. .. S 150	..	2,288	1,683 ..	31,631 ..	S 71,021 ..	.. Penning fees. Panchayat fees.	13,220 109 620
Nellore	(o)	1,323 ..	S 142 ..	.. ..	348 ..	26 ..	.. ..	.. ..	.. Kancha rent.	10 1,07,509
Chingleput ..	(p)	.. ..	G 412	.. ..	103	2,085	25,896	S 42,655	.. Penning fees. Panchayat fees. Kancha rent.	9,636 10 2,609 2,209
Chittoor ..	.. ..	.. ..	.. ..	.. ..	.. ..	2,554 ..	73,068 ..	S 57,720 ..	.. Panchayat fees.	20,069 811
Total ..	8,541	78,029	S 97,938 G 412	..	97,340	28,041	284,769	S 523,101	..	2,51,365

Districts.	Number of animals. At privileged rates. Buffaloes.	Cows and bullocks.	Goats and sheep.	Other animals.	Fees received. Actual.	Value at full rates.	Grazing free. Number of animals. By right under settlement. Buffaloes.	Cows and bullocks.	Goats and sheep.	Other animals.	Value of fees at full rates.	During pleasure of Government or otherwise than under settlement. Buffaloes.	Cows* and bullocks.	Goats and sheep.	Other animals.	Value of fees at full rates.	Total value of fees at full rates.	Grand total of value at full rates.
(1)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
NORTHERN CIRCLE.					RS.	RS.					RS.					RS.	RS.	RS.
Ganjam	..	..	..	..	..	..	..	..	..	..	..	450	2,452	S 277	..	654	654	10,690
Vizagapatam	..	..	..	..	..	..	..	..	..	..	..	..	5,007	..	..	939	939	5,851
Gōdāvari, Upper	(c) 5,012 (f) 929	26,036 11,320	(c) S 8,937	..	2,533	7,599	..	..	..	..	..	5,021	49,501	S1,254	..	11,282	11,282	18,881
Do. Lower	(g) 570	15,593	..	..	2,657	7,576	..	..	..	..	..	795	8,763	..	..	2,588	2,588	15,560
Kistna	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11,902
Kurnool, East	..	..	..	..	..	..	647	716	S 102 G5,211	..	875	..	..	..	..	..	875	34,310
Do. South	(m) 3,534	(m) 14,262	(m)S26,272	..	6,462	8,616	2	26	S 66	..	12	..	..	..	..	..	12	11,245
Do. West	..	..	..	..	..	..	..	1,491	S3,303	..	589	..	..	..	..	..	589	28,303
Total	10,045	67,211	S 35,209	..	11,652	23,791	649	2233	S3,471 G5,211	..	1,476	6,266	65,723	1,531	..	15,463	16,939	1,36,742
Unreserved lands.																		
Gōdāvari, Upper	(f) 5,710	(f) 36,315	(f) S 642	..	6,007	9,011	..	..	..	..	..	..	..	..	..	..	..	10,145
Do. Lower	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,190
Kistna	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	405
Total	5,710	36,315	S 642	..	6,007	9,011	..	..	..	..	..	..	..	..	..	..	..	17,740
Grand total	15,755	103,526	S 35,851	..	17,659	32,802	649	2,233	8,682	..	1,476	6,266	65,723	1,531	..	15,463	16,939	1,54,482
CENTRAL CIRCLE.																		
Bellary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	35,215
Anantapur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	36,520
Guntūr	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	91,891
Cuddapah, North	(g) ..	286	..	..	18	54	..	..	..	..	..	190	45	S 850	..	159	159	16,962
Do. South	..	..	..	..	..	..	..	678	..	..	127	..	..	..	..	..	..	8,906
Do. West	(h) .. (n) ..	609 ..	S. 155	..	64	129	..	..	..	..	..	..	..	..	..	..	..	16,366
Nellore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,07,867
Chingleput	..	..	..	..	..	..	..	..	..	..	..	..	81	..	..	15	15	14,582
Chittoor	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20,880
Total	..	895	S 155	..	82	183	..	678	..	..	127	190	126	S 850	..	174	174	3,49,189

G = Goats. S = Sheep.

Notes for N.C.—(a) The full rates are 6 annas per buffalo, 3 annas per cow or bullock and 1 anna 6 pies per sheep.
(b) The enhanced rates are 8 annas per buffalo, 4 annas per cow or bull and 2 annas per sheep.
(c) The privileged rates in the Bhadrāchallam taluk are 2 annas per buffalo, 1 anna per cow or bull and 6 pies per sheep.
(d) The enhanced rates are 12 annas per buffalo, and 6 annas per cow or bullock.
(e) The full rates are 8 annas per buffalo, 4 annas per cow or bullock and 1 anna and 6 pies per sheep.
(f) The privileged rates are 4 annas per buffalo, 2 annas per cow or bullock and 1 anna per sheep.
(g) The privileged rates are 1 anna per buffalo, cow or bull.
(h) The enhanced rates are 12 annas per buffalo, 6 annas per cow or bull and 1 anna and 6 pies per sheep.
(j) The enhanced rate is Re. 1 per plough bull.
(k) Do. Re. 1 per buffalo, cow or bull and annas 8 per sheep.
(l) The full rates are 8 annas per buffalo, 4 annas per cow or bull and 2 annas per sheep.
(m) The rates are 6 annas per buffalo, 3 annas per cow or bull and 1 anna and 6 pies per sheep.
(o) The enhanced rates are 8 annas per buffalo and 5 annas per bull or cow.
(r) Excludes 1,692 buffaloes belonging to Parlākimedi Maliahs.
(s) Do. 2,050 cows do.
(t) Excludes Rs. 1,019 realized as grazing fees in Parlākimedi Maliahs.

Number of cattle grazed on payments.

Buffaloes	61,240
Cows and bullock	303,678
Sheep	223,406
Grand total ..	588,324

Notes for C.C.—(1) The enhanced or special rates are—
Bellary .. .. As. 12 per buffalo, As. 6 per cow and As. 3 per sheep.
Guntūr .. .. (b) Rs. 1–8–0 per buffalo, As. 12 per cow, and As. 6 per sheep.
(c) As. 8 per buffalo, As. 4 per cow and As. 2 per sheep.
Cuddapah North, (d) Rs. 1–8–0 per buffalo, Re. 1 per cow and As. 6 per sheep.
(e) As. 12 per cow.
(f) As. 8 per calf.
(g) Anna 1 per cow.
Do. South .. (i) Re. 1 per cow.
(j) As. 12 per cow and As. 6 per sheep.
Do. West .. (h) As. 1–6 per cow.
(k) Re. 1 per cow.
(l) As. 12 per cow.
(m) As. 6 per cow and As. 3 per sheep.
(n) Pies 9 per sheep.
Nellore .. .. (o) As. 4 per cow and As. 2 per sheep.
Chingleput .. (p) As. 4 per goat.

(2) The full rates are As. 6 per buffalo, As. 3 per cow and As. 1–6 per sheep.
(a) Half the full rates for half-year in Anantapur.

(3) The privileged rates are—
Cuddapah, North .. (g) Anna 1 per cow.
Do. West .. (h) Anna 1–6 per cow
(n) Pies 9 per sheep

Annual Form No. 75.

Forest Department, Madras Presidency.

Area under artificial reproduction, 1916–17.

District.	Area in acres.				Expenditure during the year.		Total expenditure from commencement.		Revenue during the year.	Total revenue from date of creation of plantation.
	On 1st July 1916.	Added during the year.	Excluded during the year.	Area on 30th June 1917.	Creation.	Upkeep.	Creation.	Upkeep.		
Northern Circle.										
A.—Regular Plantations.										
	ACS.	ACS.	ACS.	ACS.	RS.	RS.	RS.	RS.	RS.	RS.
Vizagapatam ..	51	..	..	51	1	..	1	5	174	3,259
Gōdāvari, Lower ..	342	..	76	266	..	(a) ..	31,150	15,300	7,777	60,536
Kistna	88	..	56	32	..	(b) 86	5,983	21,246	86,463	1,10,784
Kurnool, East ..	130	..	..	130	..	(c) 92	38,471	26,045	..	..
Do. West ..	* 1,385	45	..	1,430	3,888	6,468	2,92,254	61,218	1,947	17,898
Total ..	(d) 1,996	(e) 45	132	(f) 1,909	(g) 3,889	(h) 6,646	(i) 3,67,859	(j) †1,23,814	96,361	† 1,92,477
B.—Cultural Operations.										
Vizagapatam ..	39	..	..	39	2	..	‡ 189	..	..	..
Gōdāvari, Lower ..	2,402	..	..	2,402	..	..	2,359	1,032	..	..
Kistna	1,203	100	70	1,233	49	77	7,417	2,838	11,195	61,571
Kurnool, East ..	33	..	..	33	..	..	† 9,886	3,561	..	..
Do. South ..	187	..	..	187	..	854	4,069	2,390	..	..
Do. West ..	* 3,458	250	..	3,708	114	1,060	21,865	2,063	..	..
Total ..	7,322	350	70	7,602	165	1,991	† 45,785	† 11,884	11,195	† 61,571
Central Circle.										
A.—Regular Plantations.										
Bellary	579	..	..	579	..	..	9,423	62,495	44	154
Anantapur	..	..	..	..	..	..	..	..	..	..
Guntūr	2,641	..	634	2,007	..	..	48,286	32,344	26,973	64,820
Cuddapah, North ..	10	..	..	10	..	..	560	..	..	..
Do. South ..	146	..	..	146	..	258	23	609	316	3,042
Do. West ..	..	..	..	..	..	..	..	..	..	..
Nellore	3,960	..	690	3,270	..	257	1,56,705	16,772	5,272	6,40,964
Chingleput	..	..	..	..	..	..	..	..	..	..
Chittoor	60	..	..	60	..	505	..	1,131	28	47
Total ..	7,396	..	1,324	6,072	..	1,020	2,14,997	1,13,351	32,633	7,09,027
B.—Taungya Plantations—Nil.										
C.—Cultural Operations.										
Bellary	6,790	..	..	6,790	..	..	27,981	3,006	..	..
Anantapur	360	48	51	357	20	63	§ 344	§ 74	..	..
Guntūr	..	..	..	..	..	..	..	..	..	..
Cuddapah, North ..	..	..	..	..	..	..	..	..	..	..
Do. South ..	..	..	..	..	..	..	..	..	..	..
Do. West ..	..	..	..	..	..	..	..	..	..	..
Nellore	116	..	..	116	..	..	..	129	..	..
Chingleput	..	..	..	..	..	..	..	..	..	..
Chittoor	308	50	5	353	89	104	186	178	..	..
Total ..	7,574	98	56	7,616	109	167	28,511	3,387	..	..
Grand total ..	14,970	98	1,380	13,688	109	1,187	2,43,508	1,16,738	32,633	7,09,027

* Revised figures furnished by District Forest Officer.
† Revised figures due to the exclusion of certain areas which are not under cultural operations.
‡ Excludes amount spent for maintaining gardens in bungalow compounds.
§ Corresponding deductions have been made in columns 9 and 10 owing to exclusion of area in column 5.

(a) Rs. 43 was spent for plantation in the Sudikonda rest-house.
(b) Excludes Rs. 75 being the pay of malis employed in Collector's bungalow.
(c) Excludes Rs. 10 spent for seed potatoes planted in Marlapenta.
(d) Do. 6½ acres belonging to Parlakimedi Maliahs.
(e) Do. 1½ acres do. do.
(f) Do. 8 acres do. do.
(g) Do. Rs. 33 spent in Parlakimedi Maliahs.
(h) Do. Rs. 72 do. do.
(i) Do. Rs. 50 do. do.
(j) Do. Rs. 399 do. do.

Area under artificial reproduction, 1916–17—*cont.*

District.	Area in acres. On 1st July 1916.	Area in acres. Added during the year.	Area in acres. Excluded during the year.	Area in acres. Area on 30th June 1917.	Expenditure during the year. Creation.	Expenditure during the year. Upkeep.	Total expenditure from commencement. Creation.	Total expenditure from commencement. Upkeep.	Revenue during the year.	Total revenue from date of creation of plantation.
SOUTHERN CIRCLE.										
A.—Regular Plantations.										
	ACS.	ACS.	ACS.	ACS.	RS.	RS.	RS.	RS.	RS.	RS.
North Vellore ..	1,831	5	..	1,836	108	665	19,989	1,34,206	2,825	85,774
Madura	1,329	..	..	1,329	..	660	60,763	7,637	261	4,881
Tinnevelly ..	5,322	5	..	5,327	266	..	6,634	1,756	2,872	* 7,721
Total ..	8,482	10	..	8,492	374	1,325	87,386	1,43,599	5,958	98,376
B.—Taungya Plantations.										
North Vellore ..	..	1	..	1	1	..	1	..	..	..
South Arcot ..	..	2	..	2	† ..	..	..	..	..	..
Tinnevelly ..	23	..	..	23	36	..	47	13	..	..
Total ..	23	3	..	26	37	..	48	13	..	..
C.—Cultural Operations										
North Vellore ..	840	373	6	1,149	118	..	184	98	..	579
South do. ..	532	7,141	(a) 532	7,141	297	..	486	..	..	..
West do. ..	299	1,068	..	1,367	237	..	357	..	..	..
South Arcot ..	6,822	4	..	6,826	..	..	496	2,779	..	..
North Salem ..	143	..	..	143	38	..	8,966	..	..	..
South do. ..	1,013	100	..	1,113	191	..	1,436	100	..	..
Madura ..	..	(b) ..	..	..	27	..	27	..	..	..
Tinnevelly ..	(c)4,000	17	..	4,017	53	102	(c) 5,524	6,304	48	(c) 54
Total ..	13,649	8,703	596	21,756	961	102	17,476	9,281	48	633
WESTERN CIRCLE.										
A.—Regular Plantations.										
Mangalore, South ..	52	..	..	52	..	..	32	1,367	..	516
Malabar, North ..	§ 379	..	..	379	..	301	15,272	19,496	1,200	3,139
Do. South ..	6,474	45	8	6,511	1,148	5,509	5,39,268	5,45,492	1,69,905	21,80,989
The Nilgiris ..	1,743	..	..	1,743	..	1,268	6,462	3,12,497	45,987	6,58,720
Coimbatore, South ..	§ 134	..	..	134	..	34	9,947	4,622	..	..
Total ..	8,782	45	8	8,819	1,148	7,112	5,70,981	8,83,474	2,17,092	28,43,364
B.—Taungya Plantations.										
Malabar, North ..	§ 593	42	..	635	..	..	..	10,828	..	..
The Nilgiris ..	19	..	..	19	..	172	367	3,536	..	..
Total ..	612	42	..	654	..	172	367	14,364	..	..
C.—Cultural Operations.										
Malabar, North ..	§ 903	1,766	..	2,669	916	209	3,407	7,647	..	..
Kollegal	7,050	..	..	7,050	..	..	455	149	..	..
Coimbatore, North ..	142	‡170	64	248	174	3	365	3	..	..
Do. Central ..	1,590	..	..	1,590	..	38	1,882	181	..	..
Do. South ..	1,200	6	..	1,206	15	134	2,785	1,513	..	..
Total ..	10,885	1,942	64	12,763	1,105	384	8,894	9,493	..	..
Grand total, W.C. ..	20,279	2,029	72	22,236	2,253	7,668	5,80,242	9,07,331	2,17,092	28,43,364
Total A. Regular Plantations.	26,656	100	1,464	25,292	5,411	16,103	12,41,223	12,64,238	352,044	38,43,244
Total B. Taungya Plantations.	635	45	..	680	37	172	415	14,377	..	..
Total C. Cultural operations.	39,430	11,093	786	49,737	2,340	2,644	100,666	34,045	11,243	62,204
Grand total, Presidency.	66,721	11,238	2,250	75,709	7,788	18,919	13,42,304	13,12,660	3,63,287	39,05,448

* Rs. 4,849 has been omitted to be shown in this column in the previous year's return.

† Expenditure incurred in July 1917.

‡ Refers to disafforestations of Gudalur and Brahmana Katteri reserves.

§ Revised with reference to the instructions in B.P. Forest No. 49, dated 1st April 1916.

(a) This represents areas of felled coupes in which some desultory sowings were made prior to 1913–14. They are not areas of the kind such as those in sandalwood working circles where organised cultural operations are carried out, and the same are repeated until success is ensured. The area has therefore been excluded during the year as it should not get mixed up with figures in column 4.

(b) Dibbling of seeds round sholas. Area not known.

(c) Correct figures now furnished by the District Forest Officer.

ANNUAL FORM No. 76.

Forest Department, Madras Presidency.

Outturn (in thousands of cubic feet solid) of timber and fuel during the year 1916–17 and agency of exploitation.

District.	Timber in the rough logs.					Timber in the rough poles.					Sawn or square timber.					Miscellaneous.					Total timber.					Fuel.					Total outturn.
	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
NORTHERN CIRCLE. (Thousands of cubic feet.)																															
I. Reserved Forests.																															
Ganjam	1	34	3	..	38	1	34	2	..	37	5	..	..	..	5	..	..	..	..	..	7	68	5	..	80	7	158	1	..	166	246
Vizagapatam	2	..	..	..	2	3	5	..	..	8	..	..	..	..	..	..	..	..	..	..	5	5	..	..	10	..	325	..	..	325	335
Gōdāvari, Upper ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1
Do. Lower ..	1	121	5	..	127	2	5	..	..	7	..	..	..	..	..	..	4	..	..	4	3	130	5	..	138	..	1,977	..	..	1,977	2,115
Kistna	..	..	..	..	..	..	2	..	..	2	..	..	..	..	..	..	8	3	..	11	..	10	3	..	13	..	598	..	..	598	611
Kurnool, East	6	3	..	..	9	3	..	..	..	3	1	..	..	..	1	..	..	..	..	..	10	3	..	..	13	7	4	..	..	11	24
Do. South	..	12	3	..	15	..	12	9	..	21	13	4	..	..	17	1	46	4	..	51	14	74	16	..	104	..	258	1	..	259	363
Do. West	24	..	2	..	26	46	1	18	1	66	..	..	..	..	..	1	..	..	..	1	71	1	20	1	93	196	30	..	154	380	473
Total, Reserved forests.	34	170	13	..	217	55	59	29	1	144	19	4	..	..	23	2	58	7	..	67	110	291	49	1	451	210	3,351	2	154	3,717	4,168
II. Unreserved Lands.																															
Ganjam	..	17	..	4	21	1	8	..	54	63	4	9	..	..	13	3	32	..	..	35	8	66	..	58	132	3	84	..	427	514	646
Vizagapatam	..	..	..	..	..	..	43	..	..	43	..	..	..	..	..	..	..	..	..	..	..	43	..	..	43	..	59	..	..	59	102
Gōdāvari, Upper ..	1	2	..	..	3	1	2	1	..	4	..	..	..	..	..	1	22	1	..	24	3	26	2	..	31	8	79	..	..	87	118
Do. Lower ..	1	340	14	..	355	2	..	..	..	2	..	10	..	..	10	..	..	..	..	..	3	350	14	..	367	39	338	1	..	378	745
Kistna	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	87	7	..	94	..	87	7	..	94	..	154	..	..	154	248
Kurnool, East	..	20	..	..	20	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..	20	2	..	22	..	4	..	..	4	26
Do. South ..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	28	..	..	28	..	28	1	..	29	..	84	..	..	84	113
Do. West ..	..	..	..	..	..	..	2	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2	..	..	2	..	211	..	..	211	213
Total, Unreserved lands.	2	379	15	4	400	4	55	1	54	114	4	19	..	..	23	4	169	10	..	183	14	622	26	58	720	50	1,013	1	427	1,491	2,211
Grand total ..	(d) 36	549	28	4	(d) 617	(a) 59	(b) 114	30	55	(c) 258	(e) 23	23	..	..	(e) 46	6	227	17	..	250	(f) 124	(g) 913	75	59	(h) 1,171	(i) 260	(j) 4,364	3	581	(k) 5,208	(l) 6,379
CENTRAL CIRCLE.																															
I. Reserved Forests.																															
Bellary	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	6	329	..	..	335	336
Anantapur	2	1	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	3	..	96	..	..	96	99
Guntūr	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	12	..	..	13	2	12	..	..	13	..	506	..	..	506	519
Cuddapah, North ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	6	6	..	14	1	6	6	..	14	3	365	..	..	368	382
Do. South ..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	78	..	..	78	2	78	..	..	79	21	2,027	..	..	2,048	2,127
Do. West ..	..	..	..	..	..	2	9	..	..	11	..	..	..	..	..	..	14	..	..	14	2	23	..	..	25	12	1,070	..	..	1,082	1,107
Nellore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	549	..	..	550	550
Chingleput	1	3	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	..	..	4	1	138	..	..	139	143
Chittoor	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	21	..	..	22	1	21	..	..	22	10	397	..	..	407	429
Total, Reserved forests.	3	4	..	..	7	4	9	..	..	13	..	..	..	..	..	4	131	6	..	141	11	144	6	..	161	54	5,477	..	..	5,531	5,692
II. Leased Forests.																															
Bellary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	34	..	..	36	36
III. Reserved Lands—Nil.																															
IV. Unreserved Lands.																															
Bellary	..	..	..	..	..	..	69	..	..	69	..	..	..	..	..	..	..	..	..	..	..	69	..	..	69	..	192	..	..	192	261
Anantapur	..	155	2	..	157	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	155	2	..	157	..	142	..	..	142	299
Guntūr	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	143	29	..	172	..	143	29	..	172	..	146	..	..	146	318
Cuddapah, North ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	..	..	9	..	9	..	..	9	..	105	..	..	105	114
Do. South ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	4	..	4	..	..	4	..	..	..	..	..	4
Do. West ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17	..	..	17	..	17	..	..	17	..	250	..	..	250	267
Nellore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24	14	..	38	..	24	14	..	38	..	64	..	..	64	102
Chingleput	..	44	..	..	44	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3	..	44	3	..	47	..	216	..	..	216	263
Chittoor	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	207	5	..	212	..	207	5	..	212	..	204	..	..	204	416
Total, Unreserved lands.	..	199	2	..	201	..	69	..	..	69	..	..	..	..	..	..	404	51	..	455	..	672	53	..	725	..	1,319	..	..	1,319	2,044
Grand total ..	3	203	2	..	208	4	78	..	..	82	..	..	..	..	..	4	535	57	..	596	11	816	59	..	886	56	6,830	..	..	6,886	7,772

CENTRAL CIRCLE REMARKS.

Reserved forests, Leased forest and unreserved lands—Timber and fuel—Government agency and Free grantees.—Actuals.

Timber and fuel—Purchasers.— Estimates based on accounts furnished by purchasers in reserved forests and on money value realized in unreserved lands.

(a) Excludes 1,123 c.ft. belonging to Parlākimedi Maliahs.
(b) Do. 15,351 c.ft. do. do.
(c) Do. 16,474 c.ft. do. do.
(d) Do. 373 c.ft. do. do.
(e) Do. 367 c.ft. do. do.

(f) Excludes 1,863 c.ft. belonging to Parlākimedi Maliahs
(g) Do. 15,351 c.ft. do. do.
(h) Do. 17,214 c.ft. do. do.
(i) Do. 32,700 c.ft. do. do.
(j) Do. 77,458 c.ft. do. do.
(k) Do. 110,158 c.ft. do. do.
(l) Do. 127,372 c.ft. do. do.

Outturn (in thousands of cubic feet solid) of timber and fuel during the year 1916-17, and agency of exploitation—*cont.*

(In thousands of cubic feet).

District.	Timber in the rough logs.					Timber in the rough poles.					Sawn or square timber.				
	Government.	Purchasers.	Free-grantees.	Right-holders.	Total	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free grantees.	Right-holders.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
SOUTHERN CIRCLE.															
I. Reserved Forests.															
Vellore, North	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Do. South	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Do. West	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Arcot, South	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salem, North	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2
Do. South	1	1	..	..	2	..	..	..	..	..	..	..	..	..	..
Trichinopoly	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2
Madura	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..
Tinnevelly	1	44	..	..	45	..	8	..	..	8	..	10	..	..	10
Total ..	6	45	..	..	51	..	8	..	..	8	4	10	..	..	14
II. Leased Forests—Nil.															
III. Reserved Lands.															
Arcot, South	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
IV. Unreserved Lands.															
Vellore, North	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. South	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. West	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Arcot, South	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salem, North	..	..	..	..	..	..	..	..	..	..	3	..	..	..	3
Do. South	1	..	..	..	1	..	1	1	..	2	..	..	..	..	..
Trichinopoly	..	..	..	..	..	..	..	4	..	4	..	..	..	..	..
Madura	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..
Tinnevelly	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	1	..	1	..	2	..	1	5	..	6	3	..	..	..	3
Abstract.															
Vellore, North	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Do. South	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Do. West	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Arcot, South	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salem, North	..	..	..	..	..	..	..	..	..	..	5	..	..	..	5
Do. South	2	1	..	..	3	..	1	1	..	2	..	..	..	..	..
Trichinopoly	..	..	..	..	..	..	..	4	..	4	2	..	..	..	2
Madura	2	..	1	..	3	..	..	..	..	..	..	..	..	..	..
Tinnevelly	1	44	..	..	45	..	8	..	..	8	..	10	..	..	10
Grand total ..	7	45	1	..	53	..	9	5	..	14	7	10	..	..	17
WESTERN CIRCLE.															
I. Reserved Forests.															
Mangalore, North ..	4	..	..	..	4	..	..	..	..	..	..	..	..	..	..
Do. South ..	16	7	..	..	23	..	..	..	..	..	1	..	..	..	1
Malabar, North ..	4	3	..	..	7	1	..	..	..	1	119	16	..	..	135
Do. South ..	9	14	..	..	23	7	..	..	..	7	..	..	..	..	..
The Nilgiris ..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..
Kollegal	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Coimbatore, North ..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	1
Do. Central ..	4	..	..	..	4	..	5	..	..	5	..	..	..	..	..
Do. South ..	..	2	..	..	2	..	..	..	..	..	2	..	..	..	2
Total ..	38	27	..	..	65	8	5	..	..	13	124	16	..	..	140
II. Leased Forests.															
Malabar, South ..	130	..	..	4	134	39	..	..	..	39	..	..	..	..	..
The Nilgiris ..	25	..	..	..	25	3	..	..	..	3	..	..	..	..	..
Coimbatore, South ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Total ..	155	..	..	4	159	42	..	..	..	42	1	..	..	..	1

District.	Miscellaneous.					Total timber.					Fuel.					
	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Total outturn.
(1)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
SOUTHERN CIRCLE.																
I. Reserved Forests.																
Vellore, North	..	..	..	..	..	1	..	..	..	1	12	148	..	..	160	161
Do. South	5	1	..	..	6	6	1	..	..	7	1	182	..	..	183	190
Do. West	5	8	..	..	13	5	8	..	..	13	..	97	..	..	97	110
Arcot, South	..	..	..	..	..	..	..	..	..	..	2	118	1	..	121	121
Salem, North	..	..	..	..	..	2	..	..	..	2	..	86	..	..	86	88
Do. South	..	..	..	..	..	1	1	..	..	2	..	335	..	..	335	337
Trichinopoly	..	..	..	..	..	2	..	..	..	2	8	* 20	..	..	28	30
Madura	..	..	..	..	..	2	..	..	..	2	1	582	..	..	583	585
Tinnevelly	..	38	..	..	38	1	100	..	..	101	5	948	..	..	953	1,054
Total	10	47	..	..	57	20	110	..	..	130	29	2,516	1	..	2,546	2,676
II. Leased Forests—Nil.																
III. Reserved Lands.																
Arcot, South	..	..	..	..	..	..	..	..	..	..	..	31	..	..	31	31
IV. Unreserved Lands.																
Vellore, North	..	131	1	..	132	..	131	1	..	132	..	458	..	..	458	590
Do. South	..	20	4	..	24	..	20	4	..	24	..	456	..	..	456	480
Do. West	1	4	..	..	5	1	4	..	..	5	4	50	..	..	54	59
Arcot, South	..	16	22	..	38	..	16	22	..	38	..	540	..	..	540	578
Salem, North	..	190	2	..	192	3	190	2	..	195	..	134	..	..	134	329
Do. South	..	111	..	..	111	1	112	1	..	114	5	58	..	..	63	177
Trichinopoly	..	154	..	..	154	..	154	4	..	158	..	367	..	..	367	525
Madura	..	91	..	..	91	..	91	1	..	92	..	63	..	..	63	155
Tinnevelly	..	..	3	..	3	..	..	3	..	3	..	97	3	..	100	103
Total	1	717	32	..	750	5	718	38	..	761	9	2,223	3	..	2,235	2,996
Abstract.																
Vellore, North	..	131	1	..	132	1	131	1	..	133	12	606	..	..	618	751
Do. South	5	21	4	..	30	6	21	4	..	31	1	638	..	..	639	670
Do. West	6	12	..	..	18	6	12	..	..	18	4	147	..	..	151	169
Arcot, South	..	16	22	..	38	..	16	22	..	38	2	689	1	..	692	730
Salem, North	..	190	2	..	192	5	190	2	..	197	..	220	..	..	220	417
Do. South	..	111	..	..	111	2	113	1	..	116	5	393	..	..	398	514
Trichinopoly	..	154	..	..	154	2	154	4	..	160	8	387	..	..	395	555
Madura	..	91	..	..	91	2	91	1	..	94	1	645	..	..	646	740
Tinnevelly	..	38	3	..	41	1	100	3	..	104	5	1,045	3	..	1,053	1,157
Grand total	11	764	32	..	807	25	828	38	..	891	38	4,770	4	..	4,812	5,703
WESTERN CIRCLE.																
I. Reserved Forests.																
Mangalore, North	..	2	..	..	2	4	2	..	..	6	57	584	..	..	641	647
Do. South	..	..	..	..	..	17	7	..	..	24	101	4	..	..	105	129
Malabar, North	..	..	..	..	..	124	19	..	..	143	..	..	..	..	..	143
Do. South	..	..	..	..	..	16	14	..	..	30	..	..	..	..	..	30
The Nilgiris	..	..	..	..	..	..	1	..	..	1	394	20	..	..	414	415
Kollegal	4	..	..	..	4	5	..	..	..	5	49	..	..	..	49	54
Coimbatore, North	4	..	..	..	4	6	..	..	..	6	..	542	..	..	542	548
Do. Central	..	12	..	..	12	4	17	..	..	21	26	789	..	..	815	836
Do. South	..	15	..	..	15	2	17	..	..	19	..	487	..	..	487	506
Total	8	29	..	..	37	178	77	..	..	255	627	2,426	..	..	3,053	3,308
II. Leased Forests.																
Malabar, South	..	..	..	..	..	169	..	..	4	173	34	16	..	..	50	223
The Nilgiris	..	..	..	..	..	28	..	..	..	28	..	..	..	..	..	28
Coimbatore, South	6	..	..	..	6	7	..	..	..	7	..	..	..	..	..	7
Total	6	..	..	..	6	204	..	..	4	208	34	16	..	..	50	258

SOUTHERN CIRCLE REMARKS.

Timber and fuel—Government agency and free grantees.—Actuals.
Reserved forests—Purchasers—Timber —Estimates based on the amounts realized.
Reserved forests and reserved lands—Purchasers—Fuel.—Estimates based chiefly on the accounts furnished by coupe contractors.
Unreserved lands— Timber and fuel—Purchasers.—Estimates based on the money value realized.

* Does not include the outturn of class VI forests the growth on which has been sold, as it has not yet been ascertained.

Outturn (in thousands of cubic feet or thousands of cubic feet solid) of timber and fuel during the year 1916-17 and agency of exploitation—*cont.*

WESTERN CIRCLE—cont.

III. Reserved Lands—Nil.

IV. Unreserved Lands.

(*In thousands of cubic feet.*)

Division	Timber in the rough logs.					Timber in the rough poles.					Sawn or square timber.				
	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Mangalore, North ..	1	..	..	..	1	..	363	..	..	363	..	..	..	..	..
Do. South ..	..	112	1	5	118	..	..	..	..	..	..	..	..	..	..
The Nilgiris ..	..	25	..	..	25	..	..	..	..	..	..	..	..	..	..
Kollegal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coimbatore, North ..	..	68	..	..	68	..	..	..	..	..	..	..	..	..	..
Do. Central ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total, Unreserved lands.	1	205	1	5	212	..	363	..	..	363	..	..	..	..	..
Grand total ..	194	232	1	9	436	50	368	..	..	418	125	16	..	..	141
Presidency total—															
Reserved Forests ..	81	246	13	..	340	67	81	29	1	178	147	30		..	177
Reserved Lands ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leased Forests ..	155	..	..	4	159	42	..	..	..	42	1	..	..	..	1
Unreserved Lands ..	4	783	19	9	815	4	488	6	54	552	7	19	..	..	26
Grand total, Presidency.	240	1,029	32	13	1,314	113	569	35	55	772	155	49	.	..	204

Division	Miscellaneous.					Total timber.					Fuel.					Total outturn.
	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	
(1)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
Mangalore, North ..	..	193	2	14	209	1	556	2	4	573	..	733	..	..	733	1,306
Do. South ..	..	..	..	..	..	..	112	1	5	118	..	190	..	..	190	308
The Nilgiris ..	..	..	..	..	..	..	25	..	..	25	..	1	..	..	1	26
Kollegal	..	10	..	..	10	..	10	..	..	10	..	14	..	..	14	24
Coimbatore, North ..	..	..	..	..	..	..	68	..	..	68	..	27	..	..	27	95
Do. Central ..	..	80	1	..	81	..	80	1	..	81	..	73	..	..	73	154
Total, Unreserved lands.	..	283	3	14	300	1	851	4	19	875	..	1,038	..	..	1,038	1,913
Grand total ..	14	312	3	14	343	383	928	4	23	1,338	661	3,480	..	..	4,141	5,479
Presidency total—																
Reserved Forests ..	24	265	13	..	302	319	622	55	1	997	920	13,770	3	154	14,847	15,844
Reserved Lands ..	..	..	..	..	..	..	..	..	..	..	..	31	..	..	31	31
Leased Forests ..	6	..	..	..	6	204	..	..	4	208	36	50	..	..	86	294
Unreserved Lands ..	5	1,573	96	14	1,688	20	2,863	121	77	3,081	59	5,593	4	427	6,083	9,164
Grand total, Presidency.	35	1,838	109	14	1,996	543	3,485	176	82	4,286	1,015	19,444	7	581	21,047	25,333

REMARKS.—The figures are actuals except in the following cases:—

	Factor of conversion.
Mangalore, North—Outturn under "purchasers"	*Timber.*—The sale amount is converted into yield, the factor of conversion being 16 cubic feet per rupee. *Fuel*—The sale amount is converted into yield, the factor of conversion being 3 pies per cubic foot.
Mangalore, South—Outturn under all agencies except "Government"	One tree = 25 cubic feet.
South Malabar—Reserved forests (column 2), 8,027 cubic feet .. Leased forests (column 2), 68,039 do. ..	One log of above 4 candies = 52 cubic feet. Do. from 2 to 4 candies = 26 do. Do. under 2 candies = 20 cubic feet. One short log = 4 cubic feet. Measurables = 6 cubic feet.
Reserved forests (column 7), 3,064 do. .. Leased forests (column 7), 18,062 do. ..	Smaller classes of saplings are calculated approximately as per standard measurements
Do. (column 27) .. .. .. Do. (column 28)	386 cords of fuel, 1 cord = 1·28 cubic feet.

The Nilgiris—Timber from unreserved lands is converted on sums realized at Rs. 1-4-0 per cart-load of 20 cubic feet.

Kollegal—Reserved forests (column 17) .. .. 7,539 quarters of sandalwood at half a cubic foot per quarter.

Central Coimbatore—The sale amount is converted into yield, the factor of conversion being one anna per cubic foot.

ANNUAL FORM No. 77.

Forest Department, Madras Presidency.

Outturn of minor forest produce during the year 1916–17.

Circle.	Description of produce.	Produce removed or utilised					
		By Government Agency.		By purchasers.	By free-grants.	By right-holders.	Total.
		Quantity.	Value.	Value.	Value.	Value.	Value.
		NO.	RS.	RS.	RS.	RS.	RS.
Northern Circle	Bamboos	154,564	2,659	1,45,301	1,765	439	1,50,164
	Grazing and fodder grass ..	..	..	1,22,402	3,785	2,419	1,28,606
		MDS.					
	Grass (tharbi, korai, etc.). ..	11,715	130	2,273	433	..	2,836
	Tamarind, soapnuts, galnuts, nux-vomica, sheakoy, etc.	63	49	36,363	..	..	36,412
	Horns, honey, wax, resin, gum, skins, etc.	..	..	962	..	..	962
	Tangedu, etc., barks and fibres.	2,476	1,090	51,512	..	..	52,602
	Stone, gravel, earth, etc. ..	1,173	9	2,772	32	..	2,813
	Leaves for platters	..	..	161	..	..	161
	Date and palmyra leaves, stacks, etc.	180	26	6	9	..	41
	Manure leaves and thorns ..	720	6	841	..	..	847
	Miscellaneous, including tree-tapping and tree-owners' fees.	11,035	4,030	58,698	175	23,571	86,474
	Total ..	27,362	5,340	1,53,588	649	23,571	1,83,148
	Grand total ..	..	7,999	(*a*) 4,21,291	6,199	26,429	4,61,918
		NO.					
Central Circle	Bamboos	5,469	75	24,312	77	..	24,464
	Grazing and fodder grass ..	..	..	3,48,787	174	127	3,49,088
		MDS.					
	Grass (thatch) and korai, etc. ..	2,980	25	2,534	104	..	2,663
	Tamarind, soapnuts and gallnuts.	9,037	10,294	66,604	..	..	76,898
	Horns, honey, wax, gum, etc.	..	..	37	..	..	37
	Tangedu, vembadam, etc. ..	281	694	4,04,981	..	..	4,05,675
	Mica, stone, gravel, etc. ..	..	..	29,261	..	..	29,261
	Manure leaves, thorns, etc. ..	..	..	9,067	..	..	9,067
	Date, palmyra leaves, etc. ..	88	5	4,790	463	..	5,258
	Miscellaneous including tree-tapping and tree-owners' fees.	726	1,557	95,416	..	..	96,973
	Total ..	13,112	12,575	6,12,690	567	..	6,25,832
	Grand Total ..	..	12,650	9,85,789	818	127	9,99,384
		NO.					
Southern Circle	Bamboos	8,202	640	1,20,968	480	..	1,22,088
		MDS.					
	Grazing and fodder grass ..	..	..	1,68,563	3,311	..	1,71,874
	Grass (thatch, korai, etc.) ..	456	7	5,906	..	96	6,009
	Dammer, cardamoms, etc. ..	1	28	11,410	..	..	11,438
	Tamarind, soapnuts, gallnuts, etc.	620	322	4,393	..	..	4,715
	Avaram, vembadam, etc., barks.	361	682	21,604	..	..	22,286
	Stones, gravel and earth ..	31,320	54	10,451	..	..	10,505
	Manure leaves, thorns, etc. ..	..	..	21,301	..	..	21,301
	Date, palmyra leaves, etc. ..	..	..	3,090	13	..	3,103
	Miscellaneous, including tree-tapping fees.	943	309	1,29,596	..	955	1,30,860
	Total ..	..	1,402	3,76,314	3,324	1,051	3,82,091
	Grand total ..	..	2,042	4,97,282	3,804	1,051	5,04,179
	Reserved forests.	NO.					
Western Circle	Bamboos in number	25,323	1,324	39,231	27	..	40,582
	Grazing and fodder grass ..	..	..	99,805	1,014	..	1,00,819

NOTE.—This return shows the outturn or demand accrued during the year as per heading but Form No. 80 shows the actual collections. Form No. 77 will not therefore agree with Form No. 80.

(*a*) Excludes Rs. 8,398 realized in Parlakimedi Maliahs.

Outturn of minor forest produce during the year 1916–17—*cont.*

District.	Description of produce.	Produce removed or utilized: By Government Agency. Quantity.	By Government Agency. Value.	By purchasers. Value.	By free grantees. Value.	By right-holders. Value.	Total. Value.
Western Circle—*cont.*	*Other produce.*	QRS.	RS.	RS.	RS.	RS.	RS.
	Grass (thatch, korai, etc.) ..	398	90	261	43	..	394
	Dammer, turmeric, pepper, cardamoms, etc.	4	18	1,757	..	..	1,775
	Tamarind, soapnuts, gallnuts, nux-vomica, sheakoy, etc.	163	247	8,639	..	..	8,886
	Horns, honey, wax, gum, resin, skins, etc.	39	976	1,255	..	..	2,231
	Avaram, vembadam, etc., barks and fibres.	114	35	10,098	..	..	10,133
	Stones, earth, gravel, etc. ..	..	..	1,404	6	..	1,410
	Manure leaves, thorns, etc. ..	..	..	842	49	..	891
	Date and palmyra leaves ..	..	..	1,339	..	..	1,339
	Miscellaneous	190	256	9,093	..	..	9,349
		908	1,622	34,688	98	..	36,408
	Total ..	..	2,946	1,73,724	1,139	..	1,77,809
	Leased forests.						
	Bamboos in number	59,539	3,572	1,752	9	..	5,333
	Grazing and fodder grass ..	..	..	770	..	..	770
	Other produce.	QRS.					
	Grass (thatch, korai, etc.) ..	..	..	16	..	..	16
	Horns, honey, wax, gum, resin, skins, etc.	107	579	..	..	..	579
	Stones, gravel, earth, etc. ..	..	..	58	..	..	58
	Tamarind, soapnuts, gallnuts, nux-vomica, sheakoy, etc.	..	..	5	..	..	5
		107	579	79	..	..	658
	Total ..	..	4,151	2,601	9	..	6,761
	Unreserved lands.						
	Bamboos in number	..	..	292	..	..	292
	Other produce.	QRS.					
	Catechu	1,200	11,250	..	..	..	11,250
	Grass (thatch, korai, etc.) ..	..	..	151	..	..	151
	Dammer, turmeric, pepper, cardamoms, etc.	..	..	30	..	..	30
	Tamarind, soapnuts, gallnuts, nux-vomica, sheakoy, etc.	..	..	1,731	..	..	1,731
	Avaram, vembadam, etc., barks and fibres.	..	..	2,615	..	..	2,615
	Stones, gravel, earth, etc. ..	..	..	506	32	..	538
	Manure leaves, thorns, etc. ..	..	..	9	..	..	9
	Date and palmyra leaves ..	..	..	251	..	..	251
	Miscellaneous	..	..	17,422	..	..	17,422
		1,200	11,250	22,715	32	..	33,997
	Total ..	..	11,250	23,007	32	..	34,289
	Abstract for the Circle.						
	Bamboos in number	84,862	4,896	41,275	36	..	46,207
	Grazing and fodder grass ..	..	..	1,00,575	1,014	..	1,01,589
	Other produce	2,215	13,451	57,482	130	..	71,063
	Grand total, Western Circle ..	..	18,347	1,99,332	1,180	..	2,18,859
	Total, Presidency, Bamboos ..	NO. 253,097	8,270	331,856	2,358	439	3,42,923
	Grazing and fodder-grass ..	..	..	740,327	8,284	2,546	7,51,157
	Other produce	MDS. 42,689	32,768	1,031,511	1,359	24,622	10,90,260
	Grand total, Presidency ..	..	41,038	21,03,694	12,001	27,607	21,84,340

ANNUAL FORM No. 78.

Forest Department, Madras Presidency

Account of timber, fuel, bamboos and minor produce cut or collected by Government Agency and brought to depot, sold locally or otherwise disposed of during 1916–17.

District.	Balance at commencement of the year in forest and sale depôts.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in forest and sale depôts.
TIMBER (CUBIC FEET).					
Northern Circle.					
Ganjam	(a) 55,977	(b) 15,068	(c) 71,045	(d) 66,680	(e) 4,365
Vizagapatam	1,628	4,551	6,179	2,028	4,151
Gōdāvari, Upper	11,996	2,677	14,673	1,285	13,388
Do. Lower	21,615	6,437	28,052	17,115	10,937
Kistna	..	81	81	81	..
Kurnool, East	2,020	10,377	12,397	10,429	1,968
Do. South	2,172	14,303	16,475	10,196	6,279
Do. West	13,149	71,202	84,351	26,549	57,802
Total	108,557	124,696	233,253	134,363	98,890
Central Circle.					
Bellary	382	965	1,347	457	890
Anantapur	..	1,614	1,614	1,611	3
Guntūr	..	797	797	797	..
Cuddapah, North	704	2,292	2,996	2,475	521
Do. South	386	569	955	589	366
Do. West	490	2,191	2,681	2,232	449
Nellore	73	205	278	103	175
Chingleput	100	1,327	1,427	1,082	345
Chittoor	..	1,208	1,208	1,058	150
Total	2,135	11,168	13,303	10,404	2,899
Southern Circle.					
Vellore, North	..	1,333	1,333	463	870
Do. South	1,714	6,080	7,794	3,996	3,798
Do. West	1,193	6,274	7,467	4,827	2,640
Arcot, South	149	24	173	173	..
Salem, North	437	4,959	5,396	4,801	595
Do. South	96 (f) + 2	2,228	2,326	1,918	408
Trichinopoly	36	1,849	1,885	617	1,268
Madura	724	1,795	2,519	2,500	19
Tinnevelly	2,055	882	2,937	2,830	107
Total	6,404 (f) + 2	25,424	31,830	22,125	9,705
Western Circle.					
Mangalore, North	4,242	4,799	9,041	4,047 678	4,316
Do. South	3,435	17,130	20,565	3,915 490 190	15,970
Malabar, North	28,726	124,927	153,653	147,746 4,719 33	1,155
Do. South	202,225	† 189,663	391,888	123,296 1,585 445	266,562
The Nilgiris	53,493	27,692	81,185	62,996 273 44	17,872
Kollegal	1,002	4,389	5,391	1,343 3,728 213 55	52
Coimbatore, North	2,290	5,580 ‡ 3,728	11,598	4,494 1,145 676	5,283
Do. Central	1,577	4,275	5,852	3,297 550 31	1,974
Do. South	351,134 * 6,263	9,400	366,797	82,390 1,983 8,424	274,000
Total	654,387	391,583	1,045,970	458,786	587,184
Grand total, Presidency	771,485	552,871	1,324,356	625,678	698,678

* Excess found at the inspections of depots.
† Includes 4,230 cubic feet of timber felled departmentally and granted to right-holders free of cost.
‡ Transferred from Kollegal to North Coimbatore.
(a) Excludes 605 c.ft. belonging to the Parlākimedi Maliahs.
(b) Do. 1,863 do. do.
(c) Do. 2,468 do. do.
(d) Do. 1,339 do. do.
(e) Do. 1,129 do. do.
(f) Omitted to be shown as balance in the previous year's return.

Account of timber fuel, bamboos and minor produce cut or collected by Government Agency and brought to depôt, sold locally or otherwise disposed of during 1916–17—*cont.*

FUEL (CUBIC FEET).

Name of districts.	Balance at commencement of the year in forest and sale depôts.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in forest and sale depôts.
Northern Circle.					
Ganjām	(a) 18,630	(b) 9,758	(c) 28,388	(d) 23,560	4,828
Vizagapatam	..	220	220	220	..
Gōdāvari, Upper	985	8,331	9,316	6,495	2,821
Do. Lower	..	38,895	38,895	31,969	6,926
Kistna	..	216	216	216	..
Kurnool, East	22,480	6,981	29,461	24,316	5,145
Do. South	80	..	80	80	..
Do. West	158,442	196,065	354,507	205,689	148,818
Total	200,617	260,466	461,083	292,545	168,538
Central Circle.					
Bellary	1,080	7,342	8,422	5,162	3,260
Anantapur	..	398	398	398	..
Guntūr	..	420	420	420	..
Cuddapah, North	(e) 1,250	2,797	4,047	4,045	2
Do. South	(e) 1,450	20,700	22,150	22,150	..
Do. West	4,600	12,188	16,788	16,788	..
Nellore	1,670	824	2,494	2,201	293
Chingleput	..	1,162	1,162	787	375
Chittoor	432	9,838	10,270	10,270	..
Total	(e) 10,482	55,669	66,151	62,221	3,930
Southern Circle.					
Vellore, North	6	11,595	11,601	11,596	5
Do. South	340	1,492	1,832	1,532	300
Do. West	..	3,790	3,790	3,790	..
Arcot, South	6	1,688	1,694	1,614	80
Salem, North	1,012	..	1,012	1,012	..
Do. South	..	4,760	4,760	4,740	20
Trichinopoly	1,236	7,808	9,044	9,000	44
Madura	4,500	1,400	5,900	5,870	30
Tinnevelly	736	5,000	5,736	5,490	246
Total	7,836	37,533	45,369	44,644	725
Wstern Circle.					
Mangalore, North	23,544	56,645	80,189	18,710 432	61,047
Do. South	37,476	100,570	138,046	42,010 640 976	94,420
Malabar, North	..	325	325	325	..
Do. South	3,228	34,378	37,606	30,359 48	7,199
The Nilgiris	226,706	394,131	620,827	478,881 2,528 1,077	138,351
Kollegal	130,100	49,400	179,500	179,500	..
Coimbatore, Central	3,175	25,606	28,781	19,081 540	9,160
Total	424,229	661,055	1,085,284	775,107	310,177
Grand total, Presidency	643,164	1,014,723	1,657,887	1,174,517	483,370

(a) Excludes 8,540 c.ft. of fuel belonging to Parlākimedi Maliahs.
(b) Do. 34,260 do. do.
(c) Do. 42,800 do. do.
(d) Do. 42,800 do. do.
(e) The increase of 2,000 cubic feet in the opening balance is due to that quantity having been wrongly shown under disposal in the last year's return.

Account of timber fuel, bamboos and minor produce cut or collected by Government Agency and brought to depôt, sold locally or otherwise disposed of during 1916-17—*cont.*

Name of district.	Balance at commencement of the year in forest and sale depôts.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in forest and sale depôts.
		BAMBOOS (NUMBER).			
Northern Circle.					
Ganjām	1,000	7,065	8,065	7,665	400
Vizagapatam	..	3,800	3,800	3,800	..
Gōdāvari, Upper	1,069	5,448	6,517	5,767	750
Do. Lower	3,607	24,518	28,125	27,228	897
Kistna	..	..	..	..	..
Kurnool, East	11,946	96,153	108,099	93,922	14,177
Do. South	..	1,800	1,800	1,800	..
Do. West	..	15,780	15,780	15,780	..
Total ..	17,622	154,564	172,186	155,962	16,224
Central Circle.					
Bellary	..	390	390	290	100
Anantapur	..	6	6	6	..
Guntūr	..	..	..	..	..
Cuddapah, North	420	3,220	3,640	870	2,770
Do South	..	1,508	1,508	1,448	60
Do. West	..	300	300	300	..
Nellore	..	..	..	..	..
Chingleput	9	45	54	24	30
Chittoor	..	..	..	..	..
Total ..	429	5,469	5,898	2,938	2,960
Southern Circle.					
Vellore, North	..	1,404	1,404	1,404	..
Do. South	..	1,600	1,600	1,600	..
Do. West	..	..	..	..	..
Arcot, South	2	530	532	532	..
Salem, North	600	417	1,017	967	50
Do. South	221	..	221	221	..
Trichinopoly	..	..	..	..	..
Madura	..	..	..	..	..
Tinnevelly	..	4,251	4,251	4,251	..
Total ..	823	8,202	9,025	8,975	50
Western Circle.					
Mangalore North	172	3,000	3,172	3,172	..
Do. South	150	650	800	360 200	240
Malabar, North	..	1,902	1,902	510	1,392
Do. South	51,273	73,868	125,141	59,907 1,576 1,101	62,557
Kollegal	296	1,300	1,596	396 1,200	..
Coimbatore, North	30	2,102	2,132	100 2,032	..
Do. Central	..	1,640	1,640	1,180	460
Do. South	..	400	400	250 150	..
Total ..	51,921	84,862	136,783	72,134	64,649
Grand total, Presidency ..	70,795	253,097	323,892	240,009	83,883

Account of timber, fuel, bamboos and minor produce cut or collected by Government Agency and brought to depot, sold locally or otherwise disposed of during 1916–17—*cont.*

Name of district.	Balance at commencement of the year in forest and sale depots.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in forest and sale depots.
MINOR PRODUCE (MAUNDS OF 28 LB.).					
Northern Circle.					
Ganjām	(*d*) * 82	1,355	(*d*) 1,437	266	(*d*) 1,171
Vizagapatam	12	56	68	68	..
Gōdāvari, Upper	36,725	6,872	43,597	4,314	39,283
Do. Lower	..	1,723	1,723	474	1,249
Kistna	174	190	364	312	52
Kurnool, East	998	6,507	7,505	4,075	3,430
Do. South	..	2,680	2,680	2,680	..
Do. West	9,348	7,979	17,327	16,227	1,100
Total ..	47,339	27,362	74,701	28,416	46,285
Central Circle.					
Bellary	..	..	..	..	..
Anantapur	2	..	2	2	..
Guntūr	..	..	..	..	..
Cuddapah, North	484	..	484	317	167
Do. South	160	1,320	1,480	880	600
Do. West	..	..	..	..	..
Nellore	2,247	11,744	13,991	8,944	5,047
Chingleput	..	48	48	12	36
Chittoor	..	..	..	..	..
Total ..	2,893	13,112	16,005	10,155	5,850
Southern Circle.					
Vellore, North	61	137	198	68	130
Do. South	50	379	429	92	337
Do. West	16	205	221	57	164
Arcot, South	60	797	857	802	55
Salem, North	..	..	..	..	..
Do. South	..	..	..	..	..
Trichinopoly	..	208	208	200	8
Madura	..	39	39	39	..
Tinnevelly	326	31,936	32,262	32,257	5
Total ..	513	33,701	34,214	33,515	699
Western Circle.					
Mangalore, North	32	1,301	1,333	76 (*a*) 25	1,232
Do. South	8	10	18	(*a*) 4	14
Malabar, North	..	386	386	68 (*a*) 318	..
Do. South	(*c*)	1	1	..	1
The Nilgiris	40	297	337	228 (*a*) 7	102
Kollegal	447	80	527	526 (*b*) 1	..
Coimbatore, North	71	80	151	151	..
Do. Central	42	13	55	47	8
Do. South	254	47	301	290	11
Total ..	894	2,215	3,109	1,741	1,368
Grand total, Presidency ..	639	76,390	128,029	73,827	54,202

* Revised figure furnished by the District Forest Officer.

(*a*) Used departmentally.

(*b*) Written off the accounts.

(*c*) Two hundred and eighty-seven coconuts and four ivory pieces. The coconuts together with 358 more collected, were disposed of during the year and the weight of the ivory pieces is included in the quantity shown in column 6.

(*d*) Excludes 47 quarters of minor produce belonging to Parlākimedi Maliahs.

Annual Form No. 79.

Forest Department, Madras Presidency.

Statement showing the value of timber and other produce at sale depots for the year 1916–17.

District.	Description of timber or produce.	On hand at commencement of the year. Number.	Cubic feet.	Value.	On hand at close of the year. Number.	Cubic feet.	Value.	Difference in value. In favour of the year.	Against the year.
				RS.			RS.	RS.	RS.
	Northern Circle.								
Ganjam ..	Timber	..	(b) 8,813	(c) 5,758	..	(d) 2,602	(e) 1,586	(f) ..	4,172
	Fuel	..	(g) 489	(h) 12	..	..	..	..	(i) 12
	Bamboos ..	..	..	..	..	..	..	..	..
	Minor produce ..	MDS. (j) 82	..	(k) 1,149	MDS. (j) 1,171	..	(k) 600	..	549
Vizagapatam.	Timber	..	1,628	1,049	..	4,151	1,540	491	..
	Fuel	..	..	..	..	..	..	..	..
	Bamboos ..	..	..	..	..	..	..	..	..
	Minor produce ..	MDS. 12	..	5	..	..	..	..	5
Gōdāvari, Upper.	Timber	..	..	..	..	..	..	..	..
	Fuel	..	..	..	..	..	..	..	..
	Bamboos ..	..	..	..	..	..	..	..	..
	Minor produce ..	..	..	..	..	..	..	..	..
Gōdāvari, Lower.	Timber	..	21,615	10,875	..	9,189	4,848	..	6,027
	Fuel	..	..	..	..	..	..	..	..
	Bamboos ..	3,607	..	67	..	..	..	..	67
	Minor produce ..	..	..	..	..	..	..	..	..
Kistna ..	Timber	..	..	..	..	..	..	..	..
	Fuel	..	..	..	..	..	..	..	..
	Bamboos ..	..	..	..	..	..	..	..	..
	Minor produce ..	..	..	..	..	..	..	..	..
Kurnool, East.	Timber	..	..	..	..	..	..	..	..
	Fuel	..	..	..	..	..	..	..	..
	Bamboos ..	..	..	..	..	..	..	..	..
	Minor produce ..	..	..	..	..	..	..	..	..
Kurnool, South.	Timber	..	2,172	827	..	6,279	4,215	3,388	..
	Fuel	..	80	3	..	..	..	..	3
	Bamboos ..	..	..	..	..	..	..	..	..
	Minor produce ..	..	..	..	..	..	..	..	..
Kurnool, West.	Timber	..	..	..	..	..	..	..	..
	Fuel	..	1,454	242	..	2,176	408	166	..
	Bamboos ..	..	..	..	..	..	..	..	..
	Minor produce ..	.. (a)	..	..	..	..	..	..	..
	Central Circle.								
Nellore ..	Timber	..	..	..	..	..	..	..	..
	Fuel	..	..	..	..	..	..	..	..
	Bamboos	..	..	..	..	..	..	..	..
	Minor produce ..	MDS. 2,213	..	1,049	MDS. 3,846	..	3,745	2,696	..
	Southern Circle.								
Vellore, North.	Timber	..	..	..	..	870	109	109	..
	Fuel	..	6	3	..	5	..	..	3
	Minor produce ..	MDS. 61	..	78	MDS. 130	..	65	..	13
Vellore, South.	Timber	..	1,708	36,092	..	2,723	95,769	59,677	..
Vellore, West.	Timber ..	..	610	12,146	..	1,717	60,095	47,949	..
Arcot, South.	....	..	..	..	..	..	..	..	..
Salem, North.	Timber	..	437	2,015	..	595	4,100	2,085	..
	Fuel	..	1,012	11	..	..	..	..	11
	Bamboos ..	600	..	30	50	..	3	..	27
Salem, South.	Timber	..	96 (a) + 2	319 (a) + 21	..	408	2,516	2,176	..
	Fuel	..	..	..	..	20	1	1	..
	Bamboos ..	221	..	5	..	..	..	..	5
Trichinopoly.	Timber	..	36	17	..	1,268	6,652	6,635	..
	Fuel	..	1,236	30	..	44	5	..	25

(a) The District Forest Officer reports that minor forest produce shown as stock on hand at close of the year in sale depots in the return for 1915–16 was omitted from this return as the minor forest produce depots where this produce is stored are not sale depots.

(b) Excludes 605 cubic feet belonging to Parlākimedi Maliahs.

(c) Do. Rs. 500 being value of 605 cubic feet belonging to Parlākimedi Maliahs.

(d) Do. 1,129 cubic feet belonging to Parlākimedi Maliahs.

(e) Do. Rs. 600 being value of 1,129 cubic feet in Parlākimedi Maliahs.

(f) Do. Rs. 100 in favour of the year in Parlākimedi Maliahs.

(g) Do. 8,540 cubic feet belonging to Parlākimedi Maliahs.

(h) Do. Rs. 250 being value of 8,540 cubic feet belonging to Parlākimedi Maliahs.

(i) Do. Rs. 250 against the year in Parlākimedi Maliahs.

(j) Do. 47 quarters belonging to Parlākimedi Maliahs.

(k) Do. Rs. 900 being value of 47 quarters of minor produce belonging to Parlākimedi Maliahs.

Statement showing the value of timber and other produce at sale depots for 1916-17—*cont.*

District.	Description of timber or produce.	On hand at commencement of the year. Number.	On hand at commencement of the year. Cubic feet.	On hand at commencement of the year. Value.	On hand at close of the year. Number.	On hand at close of the year. Cubic feet.	On hand at close of the year. Value.	Difference in value. In favour of the year.	Difference in value. Against the year.
	Southern Circle—cont.			RS.			RS.	RS.	RS.
Madura	Timber	..	724	215	..	19	6	..	209
	Fuel	..	4,500	281	..	30	2	..	279
Tinnevelly	Timber	..	2,055	807	..	107	80	..	727
	Fuel	..	736	15	..	246	18	3	..
	Minor produce	MDS. 326	..	29	MDS. 5	..	40	11	..
	Western Circle.								
North Mangalore.	Timber	..	2,722	2,351	..	3,486	2,269	..	82
	Bamboos	172	..	19	..	..	..	..	19
North Malabar.	Timber	..	232	116	..	..	..	..	116
South Malabar.	Timber	..	335	26	..	365	96	70	..
	Fuel	..	22	5	..	..	..	..	5
	Bamboos	9,808	..	495	..	..	..	..	495
	Minor produce	(b) ..	..	9	..	..	..	..	9
The Nilgiris.	Timber	..	53,493	23,215	..	17,872	8,885	..	14,330
	Fuel	..	36,207	3,077	..	25,303	2,596	..	481
	Minor produce	QRS. 40	..	240	QRS. 102	..	609	369	..
Kollegal	Timber	..	900	225	..	..	..	..	225
	Bamboos	56	..	1	..	..	..	..	1
	Minor produce	QRS. 370	..	740	..	..	..	..	740
North Coimbatore.	Timber	..	471	3,010	..	5,283	1,21,449	1,18,439	..
	Minor produce	QRS. 71	..	500	..	..	..	..	500
South Coimbatore.	Timber	..	28,402	33,544	..	19,335	16,491	..	17,053
	Minor produce	QRS. 251	..	574	QRS. 11	..	24	..	550
	ABSTRACT.								
Northern Circle.	Timber	..	34,228	18,509	..	22,221	12,189	..	6,320
	Fuel	..	2,014	257	..	2,176	408	151	..
	Bamboos	3,607	..	67	..	..	..	..	67
	Minor produce	MDS. 94	..	1,154	MDS. 1,171	..	600	..	554
	Total value	..	..	19,987	..	..	13,197	..	6,790
	Central Circle.								
Central Circle.	Timber	..	..	..	..	..	..	..	..
	Fuel	..	..	..	..	..	..	..	..
	Bamboos	..	..	..	..	..	..	..	..
	Minor produce	MDS. 2,213	..	1,049	MDS. 3,846	..	3,745	2,696	..
Southern Circle.	Timber	..	5,666 (a) + 2	51,611 (a) + 21	..	7,707	1,69,327	1,17,695	..
	Fuel	..	7,490	340	..	345	26	..	314
	Bamboos	881	..	35	50	..	3	..	32
	Minor produce	MDS. 387	..	107	MDS. 135	..	105	..	2
	Total value	..	..	52,093 (a) + 21	..	..	1,69,461	1,17,347	..
Western Circle	Timber	..	86,555	62,487	..	46,341	1,49,190	86,703	..
	Fuel	..	36,229	3,082	..	25,303	2,596	..	486
	Bamboos	10,036	..	515	..	..	..	..	515
	Minor produce	QRS. 732	..	2,063	QRS. 113	..	633	..	1,430
	Total value	..	..	68,147	..	..	1,52,419	84,272	..
	Grand total, Presidency.	..	..	1 41,297	..	..	3,38,822	1,97,525	..

(a) Omitted to be shown in the previous year's return.
(b) Two hundred and eighty-seven coconuts.

FORM No. 80.

ANNUAL

Forest Department, Madras Presidency.

Summary of revenue of the different district for the Forest year 1916–17.

Head of account.	Northern Circle: Direction.	Ganjām.	Vizagapatam.	Golugonda, Hill Madgole.	Gōdāvari, Upper.	Gōdāvari, Lower.	Kistna.	Kurnool, East.	Kurnool, South.	Kurnool, West.	Total.
Receipts.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Timber, etc., removed by Government Agency—											
(a) Timber	..	8,572	601	..	32	468	..	7,145	5,867	13,215	35,900
(b) Firewood and charcoal ..	16	385	13	..	175	3,469	6	582	13	4,359	9,018
(c) Bamboos	..	4	2	..	..	..	..	1,959	3	2	1,970
(d) Sandalwood	..	..	..	..	..	..	..	..	..	..	..
(e) Grass and other minor produce.	..	1,255	16	..	94	52	442	2,253	..	4,326	8,438
II. Timber, etc., removed by consumers or purchasers—											
(a) Timber	30	8,381	2,223	3,005	2,509	37,916	6,619	1,891	5,202	— 256	67,520
(b) Firewood and charcoal ..	2	9,032	5,211	..	1,124	68,012	1,12,723	227	19,260	14,814	2,30,405
(c) Bamboos	..	1,608	10,362	..	16,565	67,345	5,915	3,961	33,229	8,245	1,47,230
(d) Grazing and fodder grass..	..	10,036	4,913	..	9,674	15,243	12,307	33,435	9,079	27,715	1,22,402
(e) Other minor produce ..	68	4,299	23,171	..	587	46,250	12,762	5,353	12,010	23,876	1,28,376
(f) Rents for trees tapped ..	..	1,509	394	..	..	5,997	11,004	1,280	2,363	11,902	34,449
(g) Other items	..	..	..	..	..	..	..	..	..	..	..
(h) Commutation fees ..	..	..	..	..	..	..	..	..	..	..	..
III. Confiscated forest produce, drift and waif-wood.	..	291	105	..	509	3,992	74	138	373	557	6,039
IV. Forests not managed by Government—											
(a) Revenue from shared and private forests.	..	..	..	..	..	..	..	..	..	..	..
V. Miscellaneous—											
(a) Fines and forfeitures ..	..	4,812	2,193	14	390	8,004	3,790	5,847	6,129	4,013	35,192
(b) Other sources	636	1,059	382	..	326	7,225	1,293	730	927	5,195	17,773
Total, Revenue ..	752	(a)51,243	49,586	3,019	31,985	2,63,973	1,66,935	64,801	94,455	1,17,963	8,44,712

Head of account.	Central Circle: Direction.	Bellary.	Anantapur.	Guntūr.	Cuddapah, North.	Cuddapah, South.	Cuddapah, West.	Nellore.	Chingleput.	Chittoor.	Total.
Receipts.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Timber, etc., removed by Government Agency—											
(a) Timber	..	66	57	125	..	365	39	6	..	13	671
(b) Firewood and charcoal	..	212	..	33	..	82	42	130	148	200	847
(c) Bamboos	..	..	..	..	..	..	5	..	..	..	5
(d) Sandalwood	..	1	..	..	..	..	..	..	..	10	11
(e) Grass and other minor produce.	..	1	2	..	..	..	..	12,445	..	..	12,448
II. Timber, etc., removed by consumers or purchasers—											
(a) Timber	..	11,685	19,568	9,730	730	17,685	5,850	5,138	4,680	16,191	91,257
(b) Firewood and charcoal	..	14,587	6,487	30,730	1,809	15,761	8,946	33,182	23,314	9,323	1,44,139
(c) Bamboos	..	1,152	270	4	3,168	6,679	1,814	4	23	9,211	22,325
(d) Grazing and fodder grass	..	32,615	36,610	91,891	7	23,722	18,131	76,689	11,786	20,880	3,12,331
(e) Other minor produce	..	81,689	2,56,034	20,123	2,868	19,169	34,079	51,382	11,166	61,634	5,38,144
(f) Rents for trees tapped	..	36,268	20,388	8,050	175	2,257	1,870	7,957	3,764	5,562	86,291
(g) Other items	..	..	..	..	..	134	..	..	..	..	134
(h) Commutation fees	..	..	..	..	..	..	..	..	..	..	..
III. Confiscated forest produce, drift and waif-wood.	..	86	270	380	47	794	229	943	35	57	2,841
IV. Forests not managed by Government—											
(a) Revenue from shared and private forests.	..	..	..	..	..	..	..	..	..	..	..
V. Miscellaneous—											
(a) Fines and forfeitures	..	7,918	7,594	19,393	1,191	7,772	4,851	7,690	6,435	8,871	71,715
(b) Other sources	1	583	985	1,01,986	425	1,012	328	17,048	29,804	955	1,53,127
Total, Revenue	1	1,86,863	3,48,265	2,82,445	10,420	95,432	76,184	2,12,614	91,155	1,32,907	14.36,286

(a) Excludes Rs. 23,988 realized in Parlakimedi Maliahs.

Budget heads.	Southern Circle: * Direction.	Forest Engineer.	Vellore, North.	Vellore, South and West.	Arcot, South.	Salem, North.	Salem, South.	Trichinopoly.	Madura.	Tinnevelly.	Total.
Receipts.	RS.		RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Timber and other produce removed from the forests by Government Agency—											
(a) Timber	240	..	70	1	51	3,095	12	8	427	232	4,136
(b) Firewood and charcoal ..	..	..	347	68	76	40	..	365	92	779	1,767
(c) Bamboos	..	..	..	..	10	208	2	..	..	323	543
(d) Sandalwood	3,58,380	..	..	10,589	1	..	33	64	..	10	3,69,077
(e) Grass and other minor produce.	..	..	5	25	31	..	..	5	226	695	987
II. Timber and other produce removed from the forests by consumers or purchasers—											
(a) Timber	..	..	16,322	3,034	4,154	11,813	7,122	9,644	5,762	3,121	60,972
(b) Firewood and charcoal ..	..	..	44,248	47,235	89,085	15,329	13,180	41,272	27,920	1,03,845	3,82,114
(c) Bamboos	..	..	12,486	36,754	724	18,998	22,849	5,366	2,331	1,304	1,01,812
(d) Grazing and fodder grass ..	..	..	21,280	30,638	21,777	29,487	17,011	21,368	21,337	5,665	1,68,563
(e) Other produce ..	518	..	30,702	17,091	26,292	41,853	26,996	16,448	32,445	22,790	2,15,135
(f) Rents for trees tapped ..	..	..	6,976	2,068	3,608	1,836	217	58	..	..	14,763
(g) Other items	..	..	..	..	38	1,814	..	..	..	..	1,852
(h) Commutation fees	..	..	..	..	..	..	808	..	..	..	808
III. Confiscated drift and waif-wood ..	..	..	79	151	299	442	298	184	702	154	2,309
IV. Revenue from forest not managed by Government—											
(a) Revenue from shared and private forests.	..	..	..	..	..	..	..	..	..	..	..
V. Miscellaneous—											
(a) Fines and forfeitures ..	..	..	11,041	11,891	12,130	7,955	7,891	6,610	5,462	4,482	67,462
(b) Other sources	27	..	895	806	860	1,921	5,062	963	1,298	1,964	13,796
Total, Receipts ..	3,59,165	..	1,44,451	1,60,351	1,59,136	1,34,791	1,02,481	1,02,355	98,002	1,45,364	14,06,096

* *Direction* I (a) Rs. 240, Tinnevelly; I (d) Rs. 3,58,380 (Vellore, South and West, Rs. 2,36,165; Vellore, North, Rs. 2,106; Salem, North, Rs. 57,961; Salem, South, Rs. 49,708; Trichinopoly, Rs. 12,440). II (e) Vellore, North, Rs. 518 V (b) Rs. 27 (Vellore, North, Rs. 10; Vellore, South, Rs. 10; Trichinopoly, Re. 1; Madura, Rs. 3; Tinnevelly, Rs. 3).

Budget heads.	Western Circle: Direction.	North Mangalore.	South Mangalore.	North Malabar.	South Malabar.	The Nilgiris.	Kollegal.	North Coimbatore.	Central Coimbatore.	South Coimbatore.	Working Plans Office.	Total.
Receipts.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Timber and other produce removed from the forests by Government Agency—												
(a) Timber	7,860	1,318	1,398	62,154	1,56,808	* 13,290	87	440	2,090	90,513	..	3,35,958
(b) Firewood and charcoal	..	253	2,372	..	253	45,987	2,442	..	873	..	..	52,180
(c) Bamboos	..	256	21	..	3,398	..	20	..	..	..	..	3,695
(d) Sandalwood	1,12,011	402	..	..	..	7	..	6,662	5	..	..	1,19,087
(e) Grass and other minor produce.	2	15	24	39	26	440	1,163	357	84	1,086	..	3,236
II. Timber and other produce removed from the forests by consumers or purchasers—												
(a) Timber	3,675	34,090	12,695	11,626	670	1,691	3,285	10,085	5,777	1,673	..	85,267
(b) Firewood and charcoal	..	20,644	3,704	85	67	2,166	1,075	14,157	42,625	9,857	..	94,380
(c) Bamboos	..	2,196	1,099	514	1,453	1,934	2,337	17,791	8,341	5,806	..	41,471
(d) Grazing and fodder grass	..	4,016	7,483	3,022	2	11,422	19,566	45,035	7,705	2,322	..	1,00,573
(e) Other produce	330	5,466	8,517	5,846	1,719	† 2,083	4,290	12,577	11,230	6,270	..	† 58,328
(f) Rents for trees tapped	..	676	366	..	..	..	13	..	(a) 11	..	..	1,066
(g) Other items	..	..	..	..	..	..	..	..	..	..	..	..
(h) Commutation fees	..	..	..	..	..	..	..	..	..	..	..	..
III. Confiscated drift and waif-wood	..	2,933	504	120	325	10	37	176	403	129	..	4,637
IV. Revenue from forest not managed by Government—												
(a) Revenue from shared and private forests.	..	..	..	..	..	..	..	..	..	..	..	..
V. Miscellaneous—												
(a) Fines and forfeitures	..	7,517	4,871	383	706	1,225	1,031	9,626	6,494	2,300	..	34,153
(b) Other sources	88,157	1,231	6,320	10,869	‡13,782	5,570	1,833	3,588	4,527	22,009	5	1,57,891
Total, Receipts	2,12,035	81,013	49,374	94,658	1,79,209	85,825	37,179	1,20,494	90,165	1,41,965	5	10,91,922

(a) Rs. 2 wrongly debited to II (f) instead of II (e).

The Revenue under *Direction* is distributed as follows :—

II. (a) *South Coimbatore*, Rs. 7,860; I (d) *Kollegal*, Rs. 88,393; *North Coimbatore*, Rs. 23,618; I (e) *The Nilgiris*, Rs. 2; II (a) *North Malabar*, Rs. 3,628; *South Coimbatore*, Rs. 47; II (e) *South Coimbatore*, Rs. 330; V (b) *South Mangalore*, Rs. 2,052; *North Malabar*, Rs. 5,882; *South Malabar*, Rs. 3,116; *The Nilgiris*, Rs. 7,511; *South Coimbatore*, Rs. 69,412; and *Direction*, Rs. 184.

* Includes Rs. 1,205 appertaining to *South Coimbatore*.

† Includes Rs.2 wrongly credited to this head instead of II (d).

‡ Includes Rs. 3,465 appertaining to *North Malabar*, Rs. 6,820 to *the Nilgiris* and Rs. 1,250 to *South Coimbatore*.

Summary of expenditure of the different districts for the forest year 1916–17.

Head of account.	Direction.	Ganjām.	Vizagapatam.	Golgonda Hill Madgole.	Godāvari, Upper.	Godāvari, Lower.	Kistna.	Kurnool, East.	Kurnool, South.	Kurnool West.	Total.
Northern Circle.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
1. Refunds and drawbacks	..	484	1,458	..	22,609	295	53	14	54	968	25,935
A. Conservancy and Works.											
I. Timber, etc., removed by Government Agency—											
(*a*) Timber	..	2,150	88	..	130	206	80	2,333	1,785	9,910	16,682
(*b*) Firewood and charcoal	..	132	464	..	170	321	314	309	..	2,895	4,605
(*c*) Bamboos	..	4	..	..	..	..	..	1,130	80	..	1,214
(*d*) Sandalwood	..	..	..	..	..	..		226	..	..	226
(*e*) Grass and other minor produce ..	..	708	..	..	25	16	197	1,979	..	2,402	5,327
II. Timber, etc., removed by consumers, etc. ..	..	4,645	4,095	..	1,903	11,870	1,389	6,006	6,137	10,403	46,448
III. Confiscated forest produce, drift and waif-wood.	..	..	..	..	5	1,706	92	128	2	56	1,989
IV. Forests not managed by Government ..	..	..	..	..	..	..	..	..	..	..	..
V. Rent of leased forests, etc.	..	..	..	..	..	..	..	..	..	..	..
VI. Live-stock, stores, tools and plant—											
(*a*) Purchase of cattle	..	..	.	..	..	..	..	..	..		..
(*b*) Feed and keep of cattle	..	1,797	883	..	1,696	..	..	..	198	3,332	7,906
(*c*) Stores, tools and plant	317	1,148	591	586	1,204	5,847	1,060	338	73	1,406	12,570
VII. Communications and buildings—											
(*a*) Roads and bridges	..	3,412	204	..	1,999	2,047	3,911	10,989	6,345	3,124	32,031
(*b*) Buildings	..	3,474	1,300	..	1,341	4,929	919	5,349	3,449	3,990	24,751
(*c*) Other works	..	81	8	..	— 58	810	..	1,561	424	736	3,562
VIII. Organization, improvement and extension of forests—											
(*a*) Demarcation	..	186	365	..	1,379	1,718	181	258	386	395	4,868
(*b*) Cost of forests settlements, compensation for lands and rights.	..	..	..	..	..	..	..	..	..	..	..
(*c*) Surveys—											
(1) Local surveys	8	26	412	..	613	1,324	817	1,209	974	6	5,389
(2) Surveys of India	..	..	..	..	..	..	..	..	..	..	..
(*d*) Working plans	..	996	..	..	..	..	..	..	38	14	1,048
(*e*) Sowing and planting	360	85	3	..	..	43	285	102	854	11,528	13,260
(*f*) Protection from fire	..	5,246	1,762	..	7,873	4,802	1,493	11,173	10,117	11,995	54,461
(*g*) Other works	..	83	10	..	9	862	5,253	645	804	2,406	10,072
IX. Miscellaneous—											
(*a*) Law charges	..	..	..	..	..	..	..	..	..	50	50
(*b*) Famine batta	..	80	47	..	49	409	36	2	..	— 101	522
(*c*) Other charges	1	561	14	..	..	415	..	34	..	2,710	3,735
Total, A. Conservancy and Works ..	686	(*a*)24,814	10,246	586	18,338	37,325	16,027	43,771	31,666	67,257	2,50,716
B. Establishments.											
I. Salaries—											
(*a*) Conservators	20,149	..	..	..	..	..	..	..	..	..	20,149
(*b*) Superior officers	6,329	11,900	3,689	2,992	12,747	8,400	5,210	7,219	7,685	11,491	77,662
(*c*) Subordinate establishments, etc.	1,027	20,102	8,276	..	12,154	15,280	8,524	16,929	20,398	21,091	1,23,781
(*d*) Office establishments	9,675	8,105	3,799	429	5,361	6,719	3,454	5,292	5,841	7,617	56,292
(*e*) Deputation, etc., allowances	..	..	..	..	..	..	..	..	..	..	..
Grain compensation	126	2,113	575	33	1,423	1,703	1,046	378	561	530	8,488
II. Travelling allowances	4,369	10,564	4,283	1,922	7,028	8,645	4,819	9,370	8,693	12,138	71,831
III. Contingencies—											
(*a*) Contract items—											
(1) Service postage and telegram charges.	1,005	1,262	607	..	705	1,187	999	859	1,059	1,345	9,028
(2) Other contract items	1,145	1,714	975	40	929	2,390	922	2,006	1,337	1,463	12,921
(*b*) Non-Contract items—											
(1) Rents, rates and taxes	134	101	34	..	170	368	216	206	58	150	1,437
(2) Sundries	16,704	299	126	312	426	178	129	91	543	970	(*d*)17,744
Total, B. Establishments ..	(*b*)58,629	56,160	22,364	5,728	40,943	44,870	25,319	42,350	46,175	56,795	3,99,333
Grand Total of Expenditure A and B ..	59,315	(*c*)80,974	32,610	6,314	59,281	82,195	41,346	86,121	77,84	1,24,052	6,50,049

(*a*) Excludes Rs. 24,098 being expenditure under "A. Conservancy and Works" incurred in the Parlakimedi Maliahs.
(*b*) The total figures work out to Rs. 60,663.
(*c*) Excludes ı s. 23,629 being expenditure under B. Establishments incurred in the Parlakimedi Maliahs.
(*d*) The figures totalled work out to Rs. 19,778.

Summary of expenditure of the different districts for the Forest year 1916–17.

Budget heads.	Direction.	Bellary.	Anantapur.	Guntur.	Cuddapah, North.	Cuddapah, South.	Cuddapah, West.	Nellore.	Chingleput.	Chittoor.	Total.
Central Circle.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Refunds and Drawbacks	1	2,172	3,953	2,421	2	185	241	2,384	235	105	11,699
A. Conservancy and Works.											
I. Timber and other produce removed from the forests by Government Agency—											
(a) Timber	..	14	..	18	..	..	..	..	..	..	32
(b) Firewood and charcoal	..	..	..	..	..	..	..	4	22	233	259
(c) Bamboos	..	..	..	..	..	..	..	..	..	..	..
(d) Sandalwood	..	..	..	..	..	..	..	..	..	..	..
(e) Grass and other minor produce ..	..	..	..	..	..	..	..	4,260	..	..	4,260
II. Timber and other produce removed from the forests by consumers or purchasers.	..	1,969	1,910	3,442	1,222	7,737	3,894	1,689	2,637	2,489	26,989
III. Confiscated drift and waif-wood	..	..	13	..	..	53	15	1	..	..	82
V. Rent of leased forests and payments to share-holders in forests managed by Government.	..	8,000	..	..	..	..	..	..	..	..	8,000
VI. Live-stock, stores, tools and plant—											
(a) Purchase of cattle	..	..	..	..	..	..	..	..	..	42	42
(b) Feed and keep of cattle ..	..	..	..	..	..	..	..	..	..	..	..
(c) Stores, tools and plant ..	887	193	108	274	14	148	353	844	122	172	3,116
VII. Communications and buildings—											
(a) Roads and bridges	* 1	203	201	771	22	5,434	2,633	1,266	1,034	1,650	13,214
(b) Buildings	53	1,543	1,828	1,120	664	3,039	3,958	2,176	715	2,087	17,183
(c) Other works	..	5	41	..	50	61	32	469	111	43	812
VIII. Demarcation, improvement and extension of forests—											
(a) Demarcation	..	177	428	726	112	1,540	298	798	633	330	5,042
(b) Cost of forest settlement; compensation for land and rights.	..	..	901	..	..	549	13,062	1,539	..	..	16,051
(c) Surveys .. Local ..	415	640	123	144	..	..	51	520	368	..	2,513
India	* 252	..	..	..	..	..	..	15,125	..	..	15,125
(d) Working plans	..	..	..	6	..	..	..	..	..	..	6
(e) Sowing and planting	..	..	86	6	..	258	..	257	4	850	1,461
(f) Protection from fire	..	2,050	4,479	..	1,308	4,830	4,372	1,486	930	1,225	20,680
(g) Other works	..	8,240	7,046	8,854	626	10,882	6,689	7,520	6,763	12,289	68,909
IX. Miscellaneous—											
(a) Law charges	..	..	..	..	..	..	..	..	..	..	..
(b) Other charges	37	30	113	..	..	238	652	5	5	47	1,127
Grain compensation allowance	..	..	..	30	..	24	23	147	48	..	272
Total, A. Conservancy and Works ..	1,392 * 253	23,064	17,277	15,391	4,018	34,793	36,032	38,106	13,392	21,457	2,05,175
B. Establishments.											
I. Salaries—											
(a) Conservators	20,400	..	..	..	..	..	..	..	..	..	20,400
(b) Superior officers	7,704 * 1,806	15,858	5,470	7,175	1,030	10,385	5,085	17,602	4,058	5,960	82,133
(c) Subordinate Forest and Depot establishments.	1,347 * 289	14,532	14,735	12,872	3,282	20,924	12,773	19,307	7,753	17,395	1,25,209
(d) Office establishments, permanent	8,495	5,155	4,766	4,708	801	5,240	4,050	9,867	2,823	5,436	51,341
Do. temporary ..	50 * 241	270	403	965	97	934	567	2,258	562	266	6,613
II. Travelling allowances	5,426 * 1,029	8,128	6,380	5,959	1,141	9,372	5,249	9,998	4,449	8,092	65,223
III. Contingencies—											
(a) Contract items—											
(1) Service postage and telegram charges.	945 * 20	755	1,008	999	139	691	517	1,332	483	894	7,783
(2) Other contract contingencies	2,011 * 44	1,291	1,212	1,022	392	1,175	601	1,217	457	1,493	10,915
(b) Non-contract items—											
(1) Rents, rates and taxes	..	321	99	41	15	88	122	32	352	61	1,131
(2) Sundries	10,651	450	32	20	..	290	220	242	45	162	12,112
Grain compensation allowance	281 * 1	2	408	1,294	281	1,679	1,100	1,818	780	1,299	8,943
Total, B. Establishments	57,310 * 3,430	46,762	34,513	35,055	7,178	50,778	30,284	63,673	21,762	41,058	3,91,803

* Relates to Working Plans office.

Summary of expenditure of the different districts for the Forest year 1916-17.

Budget heads.	Direction.	Forest Engineer.	Vellore, North.	Vellore, South and West.	Arcot, South.	Salem, North.	Salem, South.	Trichinopoly.	Madura.	Tinnevelly.	Total.
Southern Circle.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Refunds and Drawbacks	..	..	814	388	151	319	756	726	454	325	3,933
11—FORESTS.											
A. Conservancy and Works.											
I. Timber and other produce removed from the forests by Government Agency—											
(a) Timber	..	..	53	3	..	1,077	8	154	..	..	1,295
(b) Firewood and charcoal	..	..	..	..	..	..	..	2	..	27	29
(c) Bamboos	..	..	..	..	18	144	..	..	..	162	324
(d) Sandalwood	..	..	143	11,576	— 4	3,971	3,424	2,978	..	38	22,126
(e) Grass and other minor produce ..	20	..	17	249	— 1	..	..	..	..	442	727
II. Timber and other produce removed from the forests by consumers or purchasers.	..	..	2,006	1,966	1,776	1,452	3,445	1,101	2,781	3,073	17,600
III. Confiscated, drift and waif-wood	..	..	..	..	1	11	1	..	11	..	24
IV. Forests not managed by Government—											
(a) Shared and private forests	..	..	..	..	..	..	..	..	..	..	..
V. Rent of leased forests and payments to shareholders in forests managed by Government.	..	..	..	..	..	34	..	..	..	..	34
VI. Live-stock, stores, tools and plant—											
(a) Purchase of cattle	..	..	..	..	..	..	..	..	..	..	..
(b) Feed and keep of cattle	..	..	..	..	..	..	..	..	..	..	..
(c) Stores, tools and plant	395	..	307	413	95	650	650	77	207	196	2,990
VII. Communications and buildings—											
(a) Roads and bridges	..	50,789	4,033	690	168	2,529	1,351	2,210	5,819	4,835	72,424
(b) Buildings	..	..	4,581	7,496	1,208	4,449	5,176	3,419	2,597	2,635	31,561
(c) Other works	..	..	274	395	76	142	258	189	128	— 1	1,461
VIII. Demarcation, improvement and extension of forests—											
(a) Demarcation	..	..	37	52	31	729	582	..	3,028	73	4,532
(b) Cost of forest settlement; compensation for land and rights.	..	..	485	198	..	44	597	362	347	..	2,033
(c) Surveys .. { Local	..	..	413	..	466	1,253	1,078	482	..	397	4,089
(c) Surveys .. { India	..	..	..	..	..	..	..	..	..	..	..
(d) Working plans	..	..	..	..	73	1	3	..	..	..	77
(e) Sowing and planting	..	..	1,990	436	10	119	517	52	1,297	468	4,889
(f) Protection from fire	..	..	684	369	338	2,164	1,912	1,118	5,334	4,764	16,683
(g) Other works	..	..	6,933	8,621	5,675	5,939	3,759	3,223	9,554	5,181	48,885
IX. Miscellaneous—											
(a) Law charges	..	..	4	..	..	..	..	..	1,945	..	1,949
(b) Other charges	5	..	250	38	82	253	182	218	101	210	1,339
Grain compensation allowance	..	..	83	21	51	4	4	23	62	..	248
Total, A. Conservancy and Works ..	420	50,789	22,293	32,523	10,063	24,965	22,947	15,608	33,211	22,500	2,35,319
B. Establishments.											
I. Salaries—											
(a) Conservators	22,800	..	..	..	..	..	..	..	..	..	22,800
(b) Superior officers	2,112	11,182	10,511	8,350	4,282	16,009	7,550	9,470	17,248	11,410	98,124
(c) Subordinate Forest and Depot establishments.	2,037	7,873	10,900	17,631	9,383	17,454	13,376	10,784	17,279	13,812	1,20,529
(d) Office establishments	9,636	4,755	4,194	6,796	4,478	6,164	5,803	5,471	6,107	5,553	58,957
Grain compensation allowance	186	..	1,000	1,294	1,027	219	189	1,032	1,429	1,392	7,768
II. Travelling allowances	2,460	3,743	6,531	6,992	5,255	7,683	6,062	4,955	7,727	5,331	56,739
III. Contingencies—											
(a) 1. Service postage and telegram charges.	1,230	..	932	1,389	997	1,404	525	1,022	1,262	837	9,598
2. Sundries	1,044	..	990	2,115	668	1,253	1,239	828	1,211	1,068	10,416
(b) Non-contract—											
1. Rents, rates and taxes	..	650	153	331	20	43	51	82	328	200	1,858
2. Sundries	10,117	2,852	56	49	87	169	74	12	158	154	13,728
Total, B. Establishments ..	51,622	31,055	35,267	44,947	26,197	50,398	34,869	33,656	52,749	39,757	4,00,517
Grand Total of Expenditure, A and B ..	52,042	81,844	57,560	77,470	36,260	75,363	57,816	49,264	85,960	62,257	6,35,836

Summary of expenditure of the different districts for the Forest year 1916–17.

Budget heads.	Direction.	North Mangalore.	South Mangalore.	North Malabar.	South Malabar.	The Nilgiris.	Kollegal.	North Coimbatore.	Central Coimbatore.	South Coimbatore.	Working plans office.	Total.
Western Circle.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Refunds and Drawbacks ..	..	71	1,302	66	48	110	212	287	440	201	100	2,837
A. Conservancy and Works.												
I. Timber and other produce removed from the forests by Government Agency—												
(*a*) Timber	..	1,044	640	9,518	11,615	3,390	76	157	374	15,420	..	42,234
(*b*) Firewood and charcoal.	..	1,176	1,649	..	692	28,675	496	..	638	..	..	33,326
(*c*) Bamboos	..	121	..	..	3,282	— 15	7	6	24	..	..	3,425
(*d*) Sandalwood	..	5	6	..	..	127	3,782	2,502	..	— 1	..	6,421
(*e*) Grass and other minor produce.	..	3,070	13	68	246	188	175	..	26	340	..	4,126
II. Timber and other produce removed from the forests by consumers or purchasers.	..	3,696	2,453	544	1,363	157	1,876	3,530	3,133	1,950	..	18,702
III. Confiscated, drift and waif-wood.	..	48	44	..	10	..	..	1	4	2	..	109
V. Rent of leased forests and payment to shareholders in forests managed by Government.	..	..	..	53	6,253	4,500	..	..	..	2,500	..	13,306
VI. Live-stock, stores, tools and plant—												
(*a*) Purchase of cattle ..	..	..	13	2,640	993	1,714	..	..	8	2,483	..	7,851
(*b*) Feed and keep of cattle.	..	..	3,029	9,225	15,852	20,053	..	..	..	17,534	..	65,693
(*c*) Stores, tools and plant.	1,693	147	120	366	1,593	1,704	189	343	410	2,495	771	9,831
VII. Communications and buildings—												
(*a*) Roads and bridges ..	..	1,728	181	2,371	3,957	12,794	4,501	9,922	2,727	5,906	..	44,087
(*b*) Buildings	24	1,742	3,081	4,584	3,399	4,243	2,549	5,270	2,823	1,178	..	28,893
(*c*) Other works	..	378	453	93	302	323	49	253	25	165	..	2,041
VIII. Demarcation, improvement and extension of forests—												
(*a*) Demarcation	..	387	91	446	293	9,510	721	292	367	11	..	12,118
(*b*) Cost of Forest Settlement; compensation for land and rights.	..	..	..	..	..	350	396	..	73,399	..	..	74,145
(*c*) Surveys .. Local ..	..	..	..	5	644	3,047	590	12	747	1,427	..	6,472
(*c*) Surveys .. India ..	..	..	..	..	2,585	..	..	..	..	..	..	2,585
(*d*) Working plans ..	..	..	..	..	897	..	..	..	..	..	5,064	5,961
(*e*) Sowing and planting..	510	32	41	1,496	6,758	1,440	..	177	45	603	..	11,102
(*f*) Protection from fire ..	..	1,813	3,360	6,237	3,671	3,975	2,885	2,010	3,264	2,142	..	29,357
(*g*) Other works	..	358	921	1,625	1,588	1,427	2,733	4,857	6,819	3,562	..	23,890
IX. Miscellaneous—												
(*a*) Law charges	..	..	5	..	..	14	..	..	..	761	..	780
(*b*) Other charges	220	120	248	986	112	3,694	25	359	258	117	..	6,139
Grain compensation allowance.	..	..	..	36	137	147	22	24	19	133	..	518
Total, A. Conservancy and Works ..	2,447	15,865	16,348	40,293	66,242	1,01,457	21,072	29,715	95,110	58,728	5,835	4,53,112
B. Establishments.												
I. Salaries—												
(*a*) Conservators	18,211	..	..	..	..	..	..	..	..	..	..	18,211
(*b*) Superior officers	6,380	5,515	5,260	6,056	13,312	18,804	3,115	17,500	6,949	21,501	4,845	1,09,237
(*c*) Subordinate Forest and Depot establishments.	1,843	7,542	7,874	13,364	8,537	19,865	9,309	13,594	8,669	10,773	2,607	1,03,977
(*d*) Office establishments ..	9,409	4,867	4,186	6,534	4,415	6,557	3,851	5,845	4,203	6,862	2,854	59,583
(*e*) Grain compensation allowance.	178	1,201	1,057	1,233	854	1,254	844	1,288	831	758	120	9,618
II. Travelling allowances	3,214	5,712	5,111	5,991	6,084	8,588	4,068	7,023	5,205	7,460	3,053	61,509
III. Contingencies—												
(*a*) Contract items—												
(1) Service postage and telegram charges.	549	1,071	893	660	545	976	359	806	508	1,069	147	7,583
(2) Other contract contingencies.	1,575	1,124	794	906	1,219	1,019	1,720	1,177	1,115	1,226	619	12,494
(*b*) Non-contract items—												
(1) Rents, rates and taxes.	108	30	..	27	57	793	621	37	100	163	..	1,936
(2) Sundries	16,307	48	117	256	374	570	170	211	41	1,753	..	19,847
Total, B. Establishments ..	57,774	27,110	25,292	35,027	35,397	58,426	24,057	47,481	27,621	51,565	14,245	4,03,995
Grand Total of Expenditure A and B.	60,221	42,975	41,640	75,320	1,01,639	1,59,883	45,129	77,196	1 22,731	1,10,293	20,080	8,57,107

Summary of receipts and expenditure during 1916-17 for each Circle and for the Presidency compiled in the Board's office from the Conservators' statements.

Budget heads.	Northern Circle.	Central Circle.	Southern Circle.	Western Circle.	Grand total, Presidency. 1916-17.	Grand total, Presidency. 1915-16.
RECEIPTS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Timber and other produce removed from the forests by Government Agency—						
(a) Timber	35,900	671	4,136	3,35,958	3,76,665	3,58,000
(b) Firewood and charcoal ..	9,018	847	1,767	52,180	63,812	64,383
(c) Bamboos	1,970	5	543	3,695	6,213	13,465
(d) Sandalwood	..	11	3,69,077	1,19,087	4,88,175	2,47,256
(e) Grass and other minor produce.	8,438	12,448	987	3,236	25,109	37,508
Total, I ..	55,326	13,982	3,76,510	5,14,156	9,59,974	7,20,612
II. Timber and other produce removed from the forests by consumers, etc.—						
(a) Timber	67,520	91,257	60,972	85,267	3,05,016	2,80,785
(b) Firewood and charcoal ..	2,30,405	1,44,139	3,82,114	94,380	8,51,038	5,92,237
(c) Bamboos	1,47,230	22,325	1,01,812	41,471	3,12,838	3,09,485
(d) Grazing and fodder grass..	1,22,402	3,12,331	1,68,563	1,00,573	7,03,869	6,86,571
(e) Other produce	1,28,376	5,38,144	2,15,135	58,328	9,39,983	7,19,262
(f) Tree-owners' fees	34,449	86,291	14,763	1,066	1,36,569	1,30,156
(g) Other items	..	134	1,852	..	1,986	1,313
(h) Commutation fees	..	..	808	..	808	606
Total, II ..	7,30,382	11,94,621	9,46,019	3,81,085	32,52,107	27,20,415
III. Confiscated drift and waifwood ..	6,039	2,841	2,309	4,637	15,826	19,623
IV. Revenue from forests not managed by Government.	..	..	..	..	..	..
V. Miscellaneous—						
(a) Fines and forfeitures ..	35,192	71,715	67,462	34,153	2,08,522	2,21,998
(b) Other sources	17,773	1,53,127	13,796	1,57,891	3,42,587	2,55,827
Total, V ..	52,965	2,24,842	81,258	1,92,044	5,51,109	4,77,825
Grand Total, Receipts ..	8,44,712	14,36,286	14,06,096	10,91,922	47,79,016	39,38,475
EXPENDITURE.						
1. Refunds and drawbacks	25,935	11,699	3,933	2,837	44,404	23,539
A. Conservancy and Works.						
I. Timber and other produce removed from the forests by Government Agency—						
(a) Timber	16,682	32	1,295	42,234	60,243	68,413
(b) Firewood and charcoal ..	4,605	259	29	33,326	38,219	36,222
(c) Bamboos	1,214	..	324	3,425	4,963	7,807
(d) Sandalwood	226	..	22,126	6,421	28,773	18,740
(e) Grass and other minor produce.	5,327	4,260	727	4,126	14,440	16,090
Total, A-I ..	28,054	4,551	24,501	89,532	1,46,638	1,47,272
II. Timber and other produce removed from the forests by consumers or purchasers.	46,448	26,989	17,600	18,702	1,09,739	1,15,093
III. Confiscated drift and waifwood ..	1,989	82	24	109	2,204	2,053
V. Rent of leased forests and payments to shareholders in forests managed by Government.	..	8,000	34	13,306	21,340	16,610
VI. Live-stock stores, tools and plant—						
(a) Purchase of cattle ..	..	42	..	7,851	7,893	13,549
(b) Feed and keep of cattle ..	7,906	..	..	65,693	73,599	81,754
(c) Stores, tools and plant ..	12,570	3,116	2,990	9,831	28,507	28,088
Total, A-VI ..	20,476	3,158	2,990	83,375	1,09,999	1,23,391
VII. Communications and buildings—						
(a) Roads and bridges ..	32,031	13,214	72,424	44,087	1,61,756	1,08,233
(b) Buildings	24,751	17,183	31,561	28,893	1,02,388	1,31,985
(c) Other works	3,562	812	1,461	2,041	7,876	12,279
Total, A-VII ..	60,344	31,209	1,05,446	75,021	2,72,020	2,52,497

S ummary of receipts and expenditure during 1916–17 for each Circle and for the Presidency compiled in the Board's office from the Conservators' statements—*cont.*

Budget heads.	Northern Circle.	Central Circle.	Southern Circle.	Western Circle.	Grand total, Presidency.	
					1916–17.	1915–16.
EXPENDITURE—*cont.*	RS.	RS.	RS.	RS.	RS.	RS.
A. Conservancy and Works—cont.						
VIII. Demarcation, etc.—						
(*a*) Demarcation	4,868	5,042	4,532	12,118	26,560	21,574
(*b*) Cost of forest settlement; compensation for land and rights.	..	16,051	2,033	74,145	92,229	15,987
(*c*) Surveys. (1) Local ..	5,389	2,513	4,089	6,472	18,463	26,436
(*c*) Surveys. (2) India ..	..	15,125	..	2,585	17,710	..
(*d*) Working-plans	1,048	6	77	5,961	7,092	10,246
(*e*) Sowing and planting ..	13,260	1,461	4,889	11,102	30,712	41,234
(*f*) Protection from fire ..	54,461	20,680	16,683	29,357	1,21,181	1,26,044
(*g*) Other works	10,072	68,909	48,885	23,890	1,51,756	1,61,153
Total, A-VIII ..	89,098	1,29,787	81,188	1,65,630	4,65,703	4,02,674
IX. Miscellaneous—						
(*a*) Law charges	50	..	1,949	780	2,779	91
(*b*) Grain compensation allowance.	522	272	248	518	1,560	..
(*c*) Other charges	3,735	1,127	1,339	6,139	12,340	14,285
Total, A-IX ..	4,307	1,399	3,536	7,437	16,679	14,376
Total, A. Conservancy and Works, including Refunds and Drawbacks.	2,76,651	2,16,874	2,39,252	4,55,949	11,88,726	10,97,505
B. Establishments.						
I. Salaries—						
(*a*) Conservators	20,149	20,400	22,800	18,211	81,560	83,073
(*b*) Superior officers	77,662	82,133	98,124	1,09,237	3,67,156	3,67,847
(*c*) Subordinate establishments, etc.	1,23,781	1,25,209	1,20,529	1,03,977	4,73,496	4,66,970
(*d*) Office establishments ..	56,292	57,954	58,957	59,583	2,32,786	2,20,465
(*e*) Grain compensation allowance.	8,488	8,943	7,768	9,618	34,817	9,579
Total, B-I ..	2,86,372	2,94,639	3,08,178	3,00,626	11,89,815	11,47,934
II. Travelling allowances	71,831	65,223	56,739	61,509	2,55,302	2,50,176
III. Contingencies—						
(*a*) Contract items—						
(1) Service postage and telegram charges.	9,028	7,783	9,598	7,583	33,992	}
(2) Other contract contingencies.	12,921	10,915	10,416	12,494	46,746	}
(*b*) Non-contract items—						} 1,12,334
(1) Rents, rates and taxes.	1,437	1,131	1,858	1,936	6,362	}
(2) Sundries	17,744	12,112	13,728	19,847	63,431	}
Total, B-III ..	41,130	31,941	35,600	41,860	1,50,531	1,12,334
Total, B. Establishments ..	3,99,333	3,91,803	4,00,517	4,03,995	15,95,648	15,10,444
Grand Total Expenditure including Refunds and Drawbacks.	6,75,984	6,08,677	6,39,769	8,59,944	27,84,374	26,07,949
Surplus	1,68,728	8,27,609	7,66,327	2,31,978	19,94,642	13,30,526
Total ..	8,44,712	14,36,286	14,06,096	10,91,922	47,79,016	39,38,475

ANNUAL FORM No. 81.

Forest Department, Madras Presidency.

Outstandings and liabilities on account of contractors and disbursers for the Forest year 1916-17.

District.	Department debtor.			Department creditor.			Balance due.	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To department (outstandings).	By department (liabilities).
Northern Circle.		RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	
Direction, Northern Circle ..	..	1,160 0 9	1,160 0 9	47 5 7	1,279 7 4	1,326 12 11	166 12 2	
Ganjām	..	67,263 5 8	67,263 5 8	2,397 1 5	67,612 7 1	70,009 8 6	2,746 2 10	..
Vizagapatam	..	24,370 10 3	24,370 10 3	610 11 2	24,266 11 0	24,877 6 2	506 11 11	..
Gōdāvari, Upper	..	31,122 13 4	31,122 13 4	1,366 13 1	30,824 9 7	32,191 6 8	1,068 9 4	..
Do. Lower	..	71,762 1 10	71,762 1 10	1,397 15 1	71,823 0 10	73,220 15 11	1,458 14 1	..
Kistna	..	33,847 6 2	33,847 6 2	544 4 11	34,022 8 11	34,566 13 10	719 7 8	..
Kurnool, East	..	89,696 12 7	89,696 12 7	2,079 0 1	89,741 0 11	91,820 1 0	2,123 4 5	..
Do. South	..	67,936 13 9	67,936 13 9	1,876 10 7	67,653 6 5	69,530 1 0	1,593 3 3	..
Do. West	..	1,35,277 14 3	1,35,277 14 3	4,327 2 1	1,31,893 1 9	1,36,220 3 10	942 5 7	..
Golconda Agency and Hill Madgole.	..	..	..	..	..	..	..	..
Total ..	..	(a)5,22,437 14 7	(a)5,22,437 14 7	(b)14,647 0 0	(c)5,19,116 5 10	(d)5,33,763 5 10	(e)11,325 7 3	..
Central Circle.								
Direction, Central Circle ..	..	1,035 5 11	1,035 5 11	8 9 7	1,094 14 9	1,103 8 4	68 2 5	
Guntūr	..	38,912 9 11	38,912 9 11	211 13 5	38,997 11 7	39,209 9 0	296 15 1	..
Nellore	..	55,185 12 6	55,185 12 6	1,792 7 7	54,206 10 10	55,999 2 5	813 5 11	..
Cuddapah, North	..	9,342 10 4	9,342 10 4	147 0 10	10,232 5 3	10,379 6 1	1,036 11 9	..
Do. South	..	82,233 12 10	82,233 12 10	2,285 11 7	80,858 9 7	83,144 5 2	910 8 4	..
Do. West	..	65,712 9 3	65,712 9 3	942 10 2	65,989 14 3	66,932 8 5	1,219 15 2	..
Bellary	..	42,234 3 3	42,234 3 3	437 5 4	42,752 4 8	43,189 10 0	955 6 9	..
Anantapur	..	44,323 8 5	44,323 8 5	938 4 1	44,300 14 2	45,239 2 3	915 9 10	..
Chittoor	..	52,923 8 2	52,923 8 2	248 1 0	53,362 5 6	53,610 6 6	686 14 4	..
Chingleput	..	26,734 12 1	26,734 12 1	331 4 6	26,907 13 9	27,239 2 3	504 6 2	..
Working Plans office, Bellary.	..	99 13 9	99 13 9	..	99 13 9	99 13 9	..	..
Total ..	..	4,18,738 10 5	4,18,738 10 5	7,343 4 1	4,18,803 6 1	4,26,146 10 2	7,407 15 9	..
Southern Circle.								
Direction, Southern Circle ..	..	1,955 12 10	1,955 12 10	50 3 0	1,967 13 3	2,018 0 3	62 3 5	
Vellore, North	..	48,271 7 4	48,271 7 4	1,109 3 2	48,049 15 7	49,159 2 9	887 11 5	..
Do. South	..	61,812 8 5	61,812 8 5	1,535 7 10	60,992 13 2	62,528 5 0	715 12 7	..
Do. West	..	6,954 3 4	6,954 3 4	..	8,846 13 10	8,846 13 10	1,892 10 6	..
Arcot, South cum Tanjore ..	..	26,571 3 3	26,571 3 3	521 12 7	26,244 6 2	26,766 2 9	194 15 6	..
Salem, North	..	62,038 0 2	62,038 0 2	777 12 1	61,863 12 7	62,641 8 8	603 8 6	..
Do. South	..	49,412 0 11	49,412 0 11	1,530 0 11	49,348 2 8	50,878 3 7	1,466 2 8	..
Trichinopoly	..	36,726 3 10	36,726 3 10	377 2 2	37,033 0 6	37,410 2 8	683 14 10	..
Madura	..	81,099 13 7	81,099 13 7	2,379 7 11	79,830 10 4	82,210 2 3	1,110 4 8	..
Tinnevelly cum Rāmnad ..	..	51,454 9 8	51,454 9 8	1,267 7 1	51,506 0 0	52,773 7 1	1,318 13 5	..
Forest Engineer	..	4,176 7 6	4,176 7 6	..	4,451 7 6	4,451 7 6	275 0 0	..
Total ..	..	4,30,472 6 10	4,30,472 6 10	9,548 8 9	4,30,134 15 7	4,39,683 8 4	9,211 1 6	..
Western Circle.								
Direction, Western Circle ..	..	982 5 7	982 5 7	80 8 9	902 13 6	983 6 3	1 0 8	
The Nilgiris	..	1,38,785 0 1	1,38,785 0 1	3,316 15 5	1,39,740 1 9	1,43,057 1 2	4,272 1 1	..
North Coimbatore	..	64,044 3 10	64,044 3 10	2,472 12 5	62,903 6 1	65,376 3 6	1,331 14 8	..
Central do.	..	42,327 8 3	42,327 8 3	1,392 15 11	42,734 6 4	44,127 6 3	1,799 14 0	..
South do.	..	90,182 2 8	90,182 2 8	5,015 8 0	89,256 1 8	94,271 9 8	4,089 7 0	..
Kollegal	..	45,741 15 0	45,741 15 0	1,114 10 3	45,780 3 3	46,894 13 6	1,152 14 6	..
North Malabar	..	65,670 5 5	65,670 5 5	1,967 14 5	65,426 10 2	67,394 8 7	1,724 3 2	..
South do.	..	74,347 10 9	74,347 10 9	3,792 7 3	75,056 1 1	78,848 8 4	4,500 13 7	..
North Mangalore	..	38,019 3 9	38,019 3 9	1,103 14 1	37,452 4 5	38,556 2 6	536 14 9	..
South do.	..	36,841 0 11	36,841 0 11	1,828 2 9	36,571 10 6	38,399 13 3	1,558 12 4	..
Working Plans office	..	15,815 15 8	15,815 15 8	155 12 9	16,431 14 1	16,587 10 10	771 11 2	..
Total ..	..	6,12,757 7 11	6,12,757 7 11	22,241 10 0	6,12,255 8 10	6,34,497 2 10	21,739 10 11	..
Grand total, Presidency. ..	..	19,84,406 7 9	19,84,406 7 9	53,780 6 10	19,80,310 4 4	20,34,090 11 2	49,684 3 5	..

(a) Excludes Rs. 18.077--2—4 belonging to Parlakimedi Maliahs.
(b) Excludes Rs. 659—4—1 do. do.
(c) Do. Rs. 17,911-15—0 do. do.
(d) Do. Rs. 18,571—3—1 do. do.
(e) Do. Rs. 494—0—9 do. do.

ACCOUNTANT-GENERAL'S OFFICE,
MADRAS, 1st *September*, 1917.

R. SRINIVASA AYYAR,
Deputy Accountant-General.

ANNUAL FORM No. 82.

Forest Department, Madras Presidency.

Revenue received and outstandings on account of revenue during 1916-17.

District.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the department at end of year.
		RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Northern Circle.						
Direction	Timber and other forest produce.	..	752 5 5	752 5 5	752 5 5	..
Ganjām	Do.	(n) 3,127 7 0	(n) 56,188 15 0	(n) 59,316 6 0	51,242 9 0	(b) 8,073 13 0
Vizagapatam	Do.	7,232 12 0	64,343 5 9	71,576 1 9	49,586 4 1	(c) 21,989 13 8
Golconda Hill Madgole ..	Do.	..	3,019 0 0	3,019 0 0	3,019 0 0	..
Gōdāvari, Upper	Do.	595 15 2	45,700 5 6	46,296 4 8	31,985 2 8	(d) 14,311 2 0
Do. Lower	Do.	(a) 57,759 4 0	2,65,725 14 1	3,23,485 2 1	2,63,972 15 5	(e) 59,512 2 8
Kistna	Do.	20,403 8 6	1,59,210 12 11	1,79,614 5 5	1,66,935 7 0	(f) 12,678 14 5
Kurnool, East	Do.	1,300 0 0	66,847 12 3	68,147 12 3	64,800 11 3	(g) 3,347 1 0
Do. South	Do.	1,934 14 0	1,37,177 15 6	1,39,112 13 6	94,454 8 2	(h) 44,658 5 4
Do. West	Do.	12,728 7 0	1,82,351 14 6	1,95,080 5 6	1,17,962 9 6	(i) 77,117 12 0
	Total ..	(a) 1,05,082 3 8	9,81,318 4 11	10,86.400 8 7	8,44,711 8 6	2,41,689 0 1
Central Circle.						
Direction	Timber and other forest produce.	..	..	..	..	..
Bellary	Do.	55,911 3 10 (j) — 30 0 0 (k) — 6 6 0	1,36,356 6 10	1,92,231 4 8	1,86,862 13 4	5,368 7 4
Anantapur	Do.	26,107 15 4	6,71,314 15 8	6,97,422 15 0	3,48,265 1 2	3,49,157 13 10
Guntūr	Do.	14,018 4 8	2,79,548 15 3	2,93,567 3 11	2,82,445 4 2	11,121 15 9
Cuddapah, North	Do.	..	16,457 13 0	16,457 13 0	10,419 11 0	6,038 2 0
Do. South	Do.	21,273 14 9 (l) — 519 4 0	90,185 12 2	1,10,940 6 11	95,432 3 11	15,508 3 0
Do. West	Do.	3,607 9 10 (m) — 1 0 0	78,908 5 1	82,514 14 11	76,184 0 9	6,330 14 2
Nellore	Do. ..	55,595 2 6	2,60,112 14 11	3,15,708 1 5	2,12,613 12 9	1,03,094 4 8
Chingleput	Do. ..	7,904 0 0	91,731 2 9	99,635 2 9	91,155 12 10	8,479 5 11
Chittoor	Do. ..	17,249 2 8	1,52,550 2 1	1,69,799 4 9	1,32,906 12 9	36,892 8 0
	Total ..	2,01,667 5 7 — 556 10 0	17,77,166 7 9	19,78,277 3 4	14,36,285 8 8	5,41,991 10 8
Southern Circle.						
Direction	Timber and other forest produce.	..	3,59,165 0 0	3,59,165 0 0	3,59,165 0 0	..
Vellore, North	Do.	24,321 10 4	1,32,998 4 5	1,57,319 14 9	1,44,451 0 0	12,868 14 9
Do. South	Do.	79,380 0 4	1,19,729 5 6	1,99,109 5 10	1,60,351 0 0	25,936 7 4
Do. West	Do.					12,821 14 6
Arcot, South cum Tanjore ..	Do.	16,096 0 1	3,69,892 11 0	3,85,988 11 1	1,59,136 0 0	2,26,852 11 1
Salem, North	Do.	16,931 3 7	1,43,662 3 6	1,60,593 7 1	1,34,791 0 0	25,802 7 1
Do. South	Do.	89,201 0 11	69,621 2 11	1,58,822 3 10	1,02,481 0 0	56,341 3 10
Trichinopoly	Do.	16,067 10 5	92,852 14 8	1,08,920 9 1	1,02,355 0 0	6,565 9 1
Madura	Do.	29,290 9 0	1,07,900 13 10	1,37,191 6 10	98,002 0 0	39,189 6 10
Tinnevelly cum Rāmnād ..	Do.	13,031 11 8	1,43,636 3 2	1,56,667 14 10	1,45,364 0 0	11,303 14 10
	Total ..	2,84,319 14 4	15,39,458 11 0	18,23,778 9 4	14,06,096 0 0	4,17,682 9 4
Western Circle.						
Direction	Timber and other forest produce.	..	184 0 0	184 0 0	184 0 0	..
Mangalore, North ..	Do.	5,445 13 1 * — 18 14 0	81,950 13 10	87,377 12 11	81,013 0 0 † 98 0 0	6,266 12 11
Do. South ..	Do.	2,274 15 11 * — 54 12 0	51,401 11 8	53,621 15 7	51,426 0 0 † 10 11 3	2,185 4 4
Malabar, North	Do.	10,784 0 0	1,54,855 15 7	1,65,639 15 7	1,07,633 0 0 † 70 3 8	57,936 11 11
Do. South	Do.	1,955 0 4	1,72,590 11 0	1,74,545 11 4	1,70,790 0 0 † 96 3 4	3,659 8 0
The Nilgiris	Do.	4,909 0 2	1,00,732 10 11	1,05,641 11 1	98,953 0 0 † 10 12 0	6,677 15 1
Kollegal	Do.	3,398 4 0	1,22,781 4 0	1,26,179 8 0	2 5,572 0 0	607 8 0
Coimbatore, North	Do.	8,609 11 4	1,51,535 4 10	1,60,145 0 2	1,44,112 0 0	16,033 0 2
Do. Central	Do.	10,493 7 10	1,38,115 5 8	1,48,608 13 6	90,165 0 0 † 249 3 10	58,194 9 8
Do. South	Do.	55,764 10 0	1,89,772 1 3	2,45,536 11 3	2,22,069 0 0	23,467 11 3
Working Plans office ..	Do.	..	5 0 0	5 0 0	5 0 0	..
	Total ..	1,03,634 14 8 * — 73 10 0	11,63,924 14 9	12,67,486 3 5	10,91,922 0 0 † 535 2 1	1,75,029 1 4
Grand total, Presidency ..		6,94,074 2 3	54,61,868 6 5	61,55,942 8 8	47,79,550 3 3	13,76,392 5 5

(a) A sum of Rs. 1,925 was erroneously shown as due in 1915-16 instead of in 1916-17.
(b) Includes Rs. 6,966-8-0 due in 1917-18 and Rs. 386 covered by E.M.D.
(c) Includes Rs. 21,901-14-0 due in 1917-18.
(d) Includes Rs. 14,170 due in 1917-18
(e) Includes Rs. 52,112-12-0 due in 1917-18 and Rs. 4,990-6-8 covered by E.M.D.
(f) Includes Rs. 12,594-10-8 due in 1917-18.
(g) Includes Rs. 2,600 due in 1917-18.
(h) Includes Rs. 44,273-5-4 due in 1917-18 and Rs. 206 covered by E.M.D.
(i) Includes Rs. 58,207-12-0 due in 1917-18 and Rs. 18,786 covered by E.M.D.
(j) Demand reduced in Board's Proceedings, Forest No. 124, Rout., dated 30th January 1917.
(k) Written off in Conservator's S.O. No. 101, dated 10th August 1916.
(l) Written off in Board's Proceedings, Forest No. 306-R., dated 9th March 1917.
(m) Erroneous demand.
(n) Excludes Rs. 8,580 belonging to the Parlakimedi Maliahs.
* Deduction due to erroneous demand and collection in the previous year.
† Written off the accounts.
NOTE.—Out of the total outstandings of Rs. 1,75,029-1-4 the amount actually due on or before 30th June 1917 was Rs. 78,739-8-0.

ANNUAL FORM No. 83.

Forest Department, Madras Presidency.

Financial results of the year 1916-17.

District.	Timber and other produce removed from the forests by Government Agency.		Other revenue.		Formation, protection and improvement of forests.	Total.	
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.
Northern Circle.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Ganjām	(b)10,287	(c) 11,615	(d)41,047	(e) 47,728	(f)25,183	(g)51,334	(h)84,526
Vizagapatam	636	3,035	48,977	26,874	5,989	49,613	35,898
Golugonda and Madgole Agency.	..	1,553	3,020	4,976	..	3,020	6,529
Gōdāvari, Upper ..	303	6,231	31,698	30,702	25,182	32,001	62,115
Do. Lower ..	4,017	8,310	2,60,108	70,760	20,255	2,64,125	99,325
Kistna	452	2,010	1,66,568	34,646	15,483	1,67,020	52,139
Kurnool, East ..	12,021	9,693	52,886	33,942	47,855	64,907	91,490
Do. South ..	5,922	3,144	88,614	47,182	34,234	94,536	84,560
Do. West ..	22,048	30,543	96,108	53,712	49,212	1,18,156	1,33,467
Total ..	55,686	76,134	7,89,026	3,50,522	2,23,393	8,44,712	{ 6,50,049 (a) 25,935
Central Circle.							
Bellary	280	14	1,86,583	51,844	25,575	1,86,863	77,433
Anantapur	59	..	3,48,206	35,912	25,008	3,48,265	60,920
Guntūr	158	18	2,82,287	35,547	20,968	2,82,445	56,533
Cuddapah, North ..	..	..	10,420	11,552	5,731	10,420	17,283
Do. South ..	447	..	94,985	55,114	36,542	95,432	91,656
Do. West ..	86	..	76,098	35,526	36,876	76,184	72,402
Nellore	12,581	4,264	2,00,033	59,245	47,400	2,12,614	1,10,909
Chingleput	148	22	91,008	22,345	15,830	91,156	38,197
Chittoor	223	233	1,32,684	42,281	29,131	1,32,907	71,645
Total ..	13,982	4,551	14,22,304	3,49,366	2,43,061	14,36,286	{ 5,96,978 (a) 11,699
Southern Circle.							
Vellore, North ..	2,528	1,539	1,44,557	37,053	24,233	1,47,085	62,825
Do. South and West	2,46,848	16,539	1,49,678	58,820	95,265	3,96,526	1,70,624
Arcot, South cum Tanjore.	169	100	1,58,967	21,837	18,213	1,59,136	40,150
Salem, North	61,304	7,666	1,31,448	51,050	24,204	1,92,752	82,920
Do. South	49,755	5,023	1,02,434	37,476	20,576	1,52,189	63,075
Trichinopoly	12,882	4,370	1,01,914	35,115	14,772	1,14,796	54,257
Madura	745	177	97,260	51,829	41,789	98,005	93,795
Tinnevelly cum Ramnad.	2,279	1,121	1,43,328	43,476	23,593	1,45,607	68,190
Total ..	3,76,510	36,535	10,29,586	3,36,656	2,62,645	14,06,096	{ 6,35,836 (a) + 3,933
Western Circle.							
Mangalore, North ..	2,244	8,001	78,789	32,847	8,888	81,033	49,736
Do. South ..	3,815	9,433	47,631	27,801	12,400	51,446	49,634
Malabar, North ..	62,193	21,613	45,460	34,366	26,098	1,07,653	82,077
Do. South ..	1,61,690	55,848	9,121	13,480	39,051	1,70,811	1,08,379
The Nilgiris	58,519	91,524	40,455	20,796	54,366	98,974	1,66,686
Kollegal	92,105	7,922	33,487	21,288	22,822	1,25,592	52,032
Coimbatore, North ..	31,077	4,842	1,13,056	47,637	31,695	1,44,133	84,174
Do. Central ..	3,052	1,764	87,133	20,627	1,07,471	90,185	1,29,862
Do. South ..	1,00,664	39,585	1,21,431	69,074	28,705	2,22,095	1,37,364
Total ..	5,15,359	2,40,532	5,76,563	2,87,916	3,31,496	10,91,922	8,59,944 *
Grand total, Presidency.	961,537	357,752	38,17,479	13,24,460	10,60,595	47,79,016	} 27,42,807 † 41,567 ‡

(a) Refunds and drawbacks.
(b) Excludes Rs. 6,803, belonging to Parlakimedi Maliahs.
(c) Do. 16,219 do. do.
(d) Do. 17,185 do. do.
(e) Do. 322 do. do.
(f) Do. 31,186 do. do.
(g) Do. 23,988 do. do.
(h) Do. 47,727 do. do.

* Includes refunds.

† Includes refunds of the Western Circle.

‡ Refunds and drawbacks of Northern, Central and Southern Circles.

Annual Form No. 84.

Forest Department, Madras Presidency.

Part I.

Statement of elephants and other live-stock during 1916–17.

District.	On hand at the commencement of the year.		Number received during the year.	Number disposed of during the year.	On hand at the end of the year.		Total expenditure on maintenance during the year.
	Number.	Value.			Number.	Value.	
(1) Elephants.							
Northern Circle.							
		RS.				RS.	RS. A. P.
Ganjām	(a) 5	(b) 4,950	..	1	2	* 2,700	(c) 1,808 3 5
Vizagapatam	1	1,500	..	..	1	* 3,000	882 10 4
Gōdāvari, Upper	2	3,700	..	..	2	3,700	1,641 15 11
Kurnool, West	2	3,100	..	..	2	* 5,500	1,518 6 2
Total ..	8	13,250	..	1	7	14,900	5,851 3 10
Central Circle—Nil.							
Southern Circle—Nil.							
Western Circle.							
Mangalore, South	5	13,650	1	2	4	14,500	3,028 13 11
Malabar, North	21	63,300	11	13	19	57,950	9,982 14 8
Do. South	23	81,100	20	5	38	1,34,600	13,109 1 1
The Nilgiris	42	1,31,700	15	31	26	65,550	17,170 7 0
Coimbatore, South ..	14	47,800	11	8	17	57,600	8,501 6 8
Total ..	105	3,37,550	58	59	104	3,30,200	51,792 11 4
Grand total (Elephants), Presidency.	113	3,50,800	58	60	111	3,45,1 10	57,643 15 2
(2) Other live-stock.							
Northern Circle.							
Kurnool, East	1	20	..	1	..	..	..
Do. South	6	198	..	6	..	..	198 6 0
Do. West	20	1,000	..	2	18	900	1,803 9 4
Total ..	27	1,218	..	9	18	900	2,001 15 4
Central Circle.							
Chittoor	3	65	1	1	3	82	..
Southern Circle—Nil.							
Western Circle.							
Malabar, North	2	80	..	2	..	..	211 10 5
Do. South	33	1,556	8	7	34	1,620	2,625 7 4
The Nilgiris	11	735	..	2	9	635	1,001 0 9
Coimbatore, South	66	4,729	14	9	71	4,439	9,023 13 0
Total ..	112	7,100	22	20	114	6,694	12,861 15 6
Grand total (Other Live-stock), Presidency.	142	8,383	23	30	135	7,676	14,863 14 10

* Values of the elephants as estimated by the Special Veterinary Inspector.
(a) Excludes 2 elephants belonging to Parlākimedi Maliahs.
(b) Excludes Rs. 4,500 being value of elephants belonging to Parlākimedi Maliahs.
(c) Excludes Rs. 1,447 being the maintenance charges of elephants, incurred in Parlākimedi Maliahs

Part II.

Statement of elephants gone off the list during the year.

District.	Names.	When purchased or otherwise obtained by Government.	Age.	How disposed of.
		Northern Circle.		
			YRS.	
Ganjām ..	Hilda	Captured in April 1907 and transferred from South Coimbatore to the Ganjām district in 1915–16.	30	Died on 24th April 1917.
		Central Circle—Nil.		
		Southern Circle—Nil.		
		Western Circle.		
Mangalore, South.	1. Leela	Captured on 1st June 1915	12	Sold.
	2. Padmavati ..	Born on 9th February 1915	1	Died.
Malabar, North.	1. Indravati ..	Do. 1st ,, 1914	3	Sold.
	2. Kumudam ..	Do. 31st January 1914	3	
	3. Rugmani ..	Do. 13th March 1914	3	
	4. Janaki	Do. 15th January 1915	2½	Transferred to The Nilgiris.
	5. Lakshmi ..	Captured on 23rd December 1915 ..	5½	Sold.
	6. Lucy	Do. 8th February 1916	6	
	7. Krishna ..	Do. 30th March 1916	16	Transferred to The Nilgiris.
	8. Rolly	Do. 17th April 1916	15	
	9. Nundy	Do. 14th March 1917	7	Sold.
	10. Phyllis ..	Purchased in 1878	65	Transferred to South Malabar.
	11. Samson ..	Do. in 1884	40	
	12. Isabella ..	Captured on 17th February 1898	39	
	13. Dostijehan ..	Born on 3rd February 1902	15	
Malabar, South.	1. Meenakshi II ..	Captured on 13th August 1904	15	Transferred South Coimbatore.
	2. Gangadin ..	Do. 27th March 1915	7	Sold.
	3. Suvala ..	Do. 2nd February 1916	3	
	4. Kermanshah ..	Do. 28th March 1916	11	Died.
	5. Sollum	Do. 12th April 1916	7	Transferred to The Nilgiris.
The Nilgiris.	1. Chick Lakshmi.	Do. 30th January 1882	58	Transferred to South Malabar.
	2. Padmini ..	Do. 10th February 1896	41	
	3. Marce	Do. 20th March 1906	20	
	4. Togo	Do. 19th June 1905	14	
	5. Madavan ..	Do. 12th March 1906	14	
	6. Hector	Do. 13th April 1906	17	
	7. Shanker ..	Do. 21st May 1907	14	
	8. Libera	Do. 5th March 1909	22	
	9. Cæsar	Do. 12th February 1910	13	
	10. Kamala ..	Do. 3rd ,, 1912	24	
	11. Lally	Do. 30th May 1913	25	
	12. Drona	Do. 2nd ,, 1914	10	
	13. Damayanti ..	Do. 30th April ,, ...	27	
	14. Valmiki ..	Do. 12th May ,, ...	10	
	15. Baker Ali ..	Do. 10th ,, 1911	16	
	16. Kamakshi ..	Do. 11th April 1914	20	
	17. Etona	Do. 4th June 1907	16	Transferred to South Coimbatore.
	18. Empress ..	Do. 19th February 1910	28	
	19. Kabbani ..	Do. 18th May 1913	33	
	20. Hanuman ..	Do. 21st February 1905	23	
	21. Dolly	Do. 24th April 1915	2	Sold.
	22. Navamani ..	Do. do.	3	
	23. Hussain ..	Do. 6th February 1915	10	
	24. Chittar ..	Do. 31st Marh 1915	2	
	25. Vaigai ..	Do. 1st April ,, ...	14	
	26. Sulaiman ..	Do. 5th ,, ,, ...	18	
	27. Achutha ..	Do. 12th June 1915	34	Died.
	28. Sollum	Do. 12th April 1916	7½	Do.
	29. Mukarti ..	Do, 7th February 1917	..	Destroyed.
	30. Anaikatti	Do. 17th ,, ...	½	Died.
	31. Abdulla ..	Do. 13th ,, ...	25	
Coimbatore, South.	1. Harischandra ..	Born on 21st November 1912	7	Transferred to The Nilgiris.
	2. Ganga	Captured on 3rd September 1915	7	
	3. Bagirati ..	Do. 26th November ,, ...	15	Died.
	4. Tippu	Do. 23rd July 1916	2	Sold.
	5. Lakshmi ..	Do. 24th November 1916	8½	Transferred to The Nilgiris.
	6. Kalyani ..	Do. do.	½	Died.
	7. Akbar	Do. 28th December 1916	1	Sold.
	8. Savitri	Do. 30th November ,, ...	7	Died.

ANNUAL FORM No. 85.

Forest Department, Madras Presidency.

Abstract showing the value of stores, tools and plant for 1916–17.

District.	Buildings.				Stores.				Totals.				Difference in value	
	On hand at the commencement of the year.		On hand at the end of the year.		On hand at the commencement of the year.		On hand at the end of the year.		On hand at the commencement of the year.		On hand at the end of the year.			
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.
Northern Circle.		RS.		RS.		RS.		RS.		RS.		RS.	RS.	RS.
Direction ..	1	1,600	1	1,590	406	2,413	410	2,089	407	4,013	411	3,679	..	334
Ganjām ..	145	55,744	144	49,575	(b)2,584	(c)7,004	(d) 3,418	(e) 7,528	(b)2,729	(c)62,748	(d)3,562	(e)57,103	..	(f)5,645
Vizagapatam ..	97	10,793	94	10,596	1,467	2,871	1,460	4,255	1,564	13,664	1,554	14,851	1,187	..
Gōdāvari, Upper.	126	* 30,184	126	28,850	* 3,079	*17,014	3,117	16,167	* 3,205	* 47,198	3,243	45,017	..	2,181
Gōdāvari, Lower.	143	49,684	155	46,499	1,947	[illegible],150	2,229	4,664	2,090	54,834	2,384	51,163	..	3,671
Kistna ..	46	5,660	39	5,443	1,354	9,348	1,326	9,769	1,400	15,008	1,365	15,212	204	..
Kurnool, East.	41	46,140	52	50,824	3,316	6,114	3,128	6,090	3,357	52,254	3,180	56,914	4,660	..
Do. South.	62	44,677	69	52,628	3,325	8,274	2,900	7,343	3,387	52,951	2,969	59,971	7,020	..
Do. West.	106	82,550	110	83,891	5,231	12,149	5,581	12,922	5,337	94,699	5,691	96,813	2,114	..
Total ..	767	3,27,032	790	3,29,896	22,709	70,337	23,569	70,827	23,476	3,97,369	24,359	4,00,723	3,354	..
Central Circle.														
Direction ..	..	..	..	..	257	2,692	375	3,096	257	2,692	375	3,096	404	..
Bellary ..	55	70,027	50	65,550	(a)3,486	8,311	3,451	13,156	3,541	78,338	3,501	78,706	368	..
Anantapur ..	36	53,683	36	53,683	2,668	7,330	2,788	6,502	2,704	61,013	2,824	60,185	..	828
Guntūr ..	31	11,773	31	11,569	2,013	9,147	2,031	7,565	2,044	20,920	2,062	19,134	..	1,786
Cuddapah, North.	89	28,772	54	24,548	1,377	6,346	1,257	2,940	1,466	35,118	1,311	27,488	17,662	..
Cuddapah, South.			50	25,168			874	4,208			924	29,376		
Cuddapah, West.	38	10,230	31	7,157	1,755	5,008	1,393	3,997	1,793	15,238	1,424	11,154		
Nellore ..	49	34,276	54	34,742	46,057	35,266	45,943	33,564	46,106	69,542	45,997	68,306	..	1,236
Chingleput ..	29	11,310	26	10,623	1,720	4,302	1,591	3,191	1,749	15,612	1,617	13,814	..	1,798
Chittoor ..	47	23,247	43	21,947	2,733	5,151	2,774	4,774	2,780	28,398	2,817	26,721	..	1,677
Vernacular Training School.	..	..	..	..	..	..	469	933	..	..	469	933	933	..
Total ..	374	2,43,318	375	2,54,987	62,066	83,553	62,946	83,926	62,440	3,26,871	63,321	3,38,913	12,042	..
Southern Circle.														
Direction ..	..	..	..	..	177	2,549	184	2,415	177	2,549	184	2,415	..	134
North Vellore.	49	22,853	43	22,036	1,785	5,036	1,638	4,665	1,834	27,889	1,681	26,701	..	1,188
South do.	31	15,922	35	24,565	2,114	6,637	2,875	5,619	2,145	22,559	2,910	30,184	7,625	..
West do.	17	13,770	19	17,502	993	2,581	1,128	4,103	1,010	16,351	1,147	21,605	5,254	..
South Arcot cum Tanjore.	43	24,685	38	20,657	1,723	3,618	1,674	3,389	1,766	28,303	1,712	24,046	..	4,257
North Salem ..	115	97,786	120	51,291	2,382	8,028	2,587	6,562	2,497	1,05,814	2,707	57,853	..	47,961
South do. ..	61	44,279	61	41,752	3,009	7,356	3,039	7,073	3,070	51,635	3,100	48,825	..	2,810
Trichinopoly ..	25	15,342	26	14,957	3,217	9,253	3,048	9,747	3,242	24,595	3,074	24,704	109	..
Madura ..	118	82,574	118	81,886	3,198	5,738	3,220	5,398	3,316	88,312	3,338	87,284	..	1,028
Tinnevelly ..	82	55,784	109	54,854	1,906	5,159	1,851	4,463	1,988	60,943	1,960	59,317	..	1,626
Vernacular Training school.	..	..	..	..	552	1,608	523	1,067	552	1,608	523	1,067	..	541
Total ..	541	3,72,995	569	3,29,500	21,056	57,563	21,767	54,501	21,597	4,30,558	22,336	3,84,001	..	46,557
Western Circle.														
Direction ..	1	70	1	66	385	5,135	447	6,260	386	5,205	448	6,326	1,121	..
Mangalore, North.	32	18,997	37	23,462	962	3,708	860	3,751	994	22,705	897	27,213	4,508	..
Do. South.	24	8,052	23	8,017	1,112	4,316	1,146	4,061	1,136	12,368	1,169	12,078	..	290
Malabar, North	74	40,960	78	47,560	4,548	6,420	4,226	5,081	4,622	47,380	4,304	52,641	5,261	..
Do. South.	51	40,931	55	40,702	1,645	6,095	1,692	5,991	1,696	47,026	1,747	46,693	..	333
The Nilgiris ..	68	39,826	71	45,785	1,902	14,299	2,337	11,979	1,970	54,125	2,408	57,764	3,639	..
Kollegal ..	34	25,356	33	20,119	1,970	6,230	† 21,047	6,153	2,004	31,586	21,080	26,272	..	5,314
Coimbatore, North.	78	65,819	78	72,548	3,394	12,112	3,134	10,972	3,472	77,931	3,212	83,520	5,589	..
Do. Central	61	27,910	55	19,065	7,867	8,527	7,572	7,280	7,928	36,437	7,627	26,345	..	10,092
Do. South.	69	34,856	71	39,568	2,523	9,992	2,212	10,123	2,592	44,848	2,283	49,691	4.843	..
Vernacular Training School.	..	..	..	..	332	1,108	358	1,365	332	1,108	358	1,365	257	..
Working Plans Office.	..	..	..	..	197	1,600	366	2,490	197	1,600	366	2,490	890	..
Total ..	492	3,02,777	502	3,16,892	26,837	79,542	45,397	75,506	27,329	3,82,319	45,899	3,92,398	10,079	..
Grand total, Presidency.	2,174	12,46,122	2,236	12,31,275	132,668	2,90,995	153,679	2,84,130	134,842	15,37,117	155,915	15,16,035	..	21,082

* Correct figures furnished by the District Forest Officer, Gōdāvari Upper.
† Includes 19,200 bricks.
(a) Revised figure including accoutrements which were now added.
Southern Circle.—N.B.—Special Working Plans office has been excluded as it has been transferred to Western Circle.
(b) Excludes 656 articles belonging to the Parlakimedi Maliahs.
(c) ,, Rs. 1,293 being value of articles belonging to the Parlākimedi Maliahs.
(d) ,, 837 articles belonging to the Parlākimedi Maliahs.
(e) ,, Rs. 3,129 being value of articles belonging to the Parlākimedi Maliahs.
(f) ,, Rs. 1,836 against the year belonging to Parlakimedi Maliahs.

Government of Madras

REVENUE DEPARTMENT

G.O. No. 166, 10th January 1918

Forest Administration Report

Reviewing the — for 1916–17.

READ—the following paper :—

Proceedings of the Board of Revenue (Land Revenue), Forest No. 100, dated 21st November 1917.

The Hon'ble Mr. M. E. COUCHMAN, I.C.S.,
Commissioner of Land Revenue and Forests.

The Board submits to Government its progress report of the forest administration of the Madras Presidency for the year ending 30th June 1917.

2. *Alteration in area.*—Some 8 square miles were constituted reserved forests and in pursuance of the policy recommended by the Forest Committee 44 square miles were disafforested during the year, the greater part of the latter area being in the districts of Bellary, the Nilgiris and Cuddapah.

The total area of reserved forest was 18,810 square miles at the close of the year, a net decrease of 35 square miles on last year's figure. The area of reserved lands also fell, from 734 to 725 square miles. In the Parlākimedi Maliahs a block of about 13 square miles was added to reserved lands during the year. The total number of blocks selected for reservation in the Maliahs up to the end of the year was 25, aggregating 196 square miles.

3. *Forest settlement.*—As in previous years, forest settlement work was carried out by revenue divisional officers. Out of a total area of 493 square miles, which awaited settlement at the close of the year, the Northern Circle alone accounts for 422 square miles. Three large blocks covering an area of 418 square miles were awaiting settlement in the Gōdāvari district. The settlement papers in respect of two large blocks, viz., Nugur (246·61 square miles) and Peddamedisileru (96·48 square miles) are still undergoing revision at the hands of the local officers. It is reported that the final notification in respect of the remaining block, the Coringa extension reserve (75 square miles), will be ready for publication during 1917–18. The Chokkapad block in the Ganjām district (area 64·69 square miles), referred to in the last year's report, was notified under section 16 after the close of the year. As regards the Southern Circle, proposals for the employment of a Special Forest Settlement Officer and a special subordinate staff in connexion with the reservation of unreserved lands in the Attur taluk, Salem district, were submitted to Government for sanction (see Board's Reference No. 1750/16–4, dated 13th March 1917). Since then, however, the formation of an additional range staff has been sanctioned (G.O. No. 2770, Revenue, dated 6th September 1917) and it has been decided that this staff should take up the work. The special subordinate staff will therefore not be required. The appointment of a Special Forest Settlement Officer still awaits the orders of Government. The forest settlement work is practically complete in the Central and the Western Circles.

Excessive delays often occur in forest settlement proceedings and with a view to reducing them the Board now requires Collectors to submit a half-yearly return of the progress of these settlements.

4. *Demarcation.*—The total length of forest boundaries at the close of the year was 35,370 miles (or 235 miles less than in the previous year), of which 1,887 miles do not require artificial demarcation. The total length of artificially marked boundaries was 33,041 miles, of which 123 miles were demarcated for the first time during the year, against 118 miles in the previous year ; four hundred and forty-two miles remained still to be demarcated at the close of the year, principally as in the

previous year, in the districts of *Kollegal* and *Madura*. The length of old boundaries repaired during the year was 18,808, against 17,644 miles in the previous year; of this length 12,259 miles were cleared by subordinates free of cost, against 11,438 miles in 1915–16. The average cost per mile of fresh demarcation and of repairs rose from Rs. 36–5–3 and Rs. 2–11–7 to Rs. 37–1–8 and Rs. 3–2–9. The increased cost occurred principally in the Western Circle and is attributed to the heaviness of the jungle cleared and to the increased cost of trenching in *North Malabar* and to the inaccessibility of the forests and the scarcity of labour in *The Nilgiris*. The question of the revised boundary between *the Nilgiri* and *Coimbatore* districts was finally decided in G.O. No. 2953, Revenue, dated 20th December 1916. The retention up to 15th November 1917 of the temporary surveyor who is employed on the demarcation of this boundary was sanctioned in G.O. Mis. No. 3250, Revenue, dated 13th October 1917. The special forest establishment, whose continued employment was sanctioned in G.O. No. 2038, Revenue, dated 26th September 1916, for the verification and demarcation of the boundaries of forest reserves in the *Nilgiri* district substantially repaired 124 miles which included 10 miles of the district boundary.

5. *Surveys.*—The Survey of India continued its operations in the *Nellore* district and surveyed about 115 square miles on the 4″ scale and about 65 square miles on the 2″ scale. A special surveyor deputed by the Survey of India completed the survey of some of the teak plantations in *South Malabar* and prepared maps for them on the 8″ scale. It is reported that the special district reference maps of the two *Malabar* divisions are pending publication in the Forest Map office, Dehra Dun, but that the maps of the red sanders areas in the *Cuddapah* district and the 'India' diagram showing annual revenue, expenditure and surplus for the ten years 1905–06 to 1914–15 were published during the year.

A surveyor deputed by the Madras Survey Party in March 1917 completed the survey of seven estates on the Anamalais; he had to stop further work in May owing to the outbreak of the monsoon. In its Reference Forest No. 2103-Gl./17–2, dated 29th October 1917, the Board has recommended to Government the employment of the surveyor for a period of six months from November 1917 in order to complete the survey of the remaining estates on the Anamalais. Miscellaneous work, such as the survey of coupes, the alignment of roads and fire lines, the verification of boundaries and preparation of coupe and working-plan maps, was done by departmental surveyors.

Management of Forests.

(1) *Regulation and Management.*

6. *Working-plans.*—Working-plans for an area of 494 square miles were sanctioned during the year and plans for 1,805 square miles were under preparation by District Forest Officers. The most important working-plans now under preparation are those for the sāl forests of Ganjām, the teak plantations of Nilambur and the Mount Stuart forests in the Anamalais. The original proposals for the sāl forests in *Ganjām* were modified at the suggestion of the Inspector-General of Forests, and the District Forest Officer visited the sāl forests near Dehra Dun and Gorakpur to study the effect of different methods of treatment. Observation areas have been laid out to note the effects of clear felling, sowing and improvement fellings of varying intensities. It is hoped that the final working-plan will be completed next year. At Nilambur, Mr. Bourne, the District Forest Officer, with a special staff continued to collect the statistics for the preparation of the final working-plans for the teak plantations. For Mount Stuart, a special staff has been engaged, first under Mr. C. C. Wilson, who has since joined the Indian Army Reserve of Officers, and then under the District Forest Officer Mr. H. F. A. Wood, in preparing a working-plan for the Tekkadi leased forests and the adjacent Ulandi forests. These are nearing completion. Other working-plans sanctioned during the year were the Hosūr sandalwood working-plan in *North Salem* and the revised working-plan for the fuel forests of *Madura*. There are still about 7,000 square miles of forests for which no working-plans have been prepared and many of the existing plans are either defective and require revision or are nearing the end of the period for which they were framed. An additional working-plans party has been sanctioned since the close of the year for the Southern Circle.

The department is already undermanned, and, in addition to this, several gazetted officers have been allowed to join the army, and the Indian Defence Force is making further claims on the time of most of the officers of the department; consequently satisfactory progress in this most important branch of work cannot be expected at present.

(2) *Communications and Buildings.*

7. Expenditure on buildings was restricted to absolutely essential requirements and showed a reduction from Rs. 1·32 lakhs to Rs. 1·02 lakhs. Expenditure on roads and bridges, being frequently remunerative and even more vital for the successful working of the department, rose from Rs. 1·08 lakhs to Rs. 1·62 lakhs. The chief works on which expenditure was incurred during the year were, under the head of *Buildings*, quarters and offices for subordinates; and under *Roads and Bridges*, an extension of the Mount Stuart tramway for 10 furlongs. The working of this tramway for the year showed a profit of Rs. 11,192 as compared with Rs. 1,441 in the previous year. In the *Nellore* district temporary tramlines were laid for the transport of fuel and poles from the casuarina topes and the Srīharikōta reserve. Three thousand seven hundred and sixty-five tons of fuel were transported from Srīharikōta and 1,045 from the casuarina topes, a considerable increase over the figures of last year, which were 1,518 and 927 tons respectively.

Satisfactory progress was made by the Forest Engineer on the important Alangayam-Komattiyur Ghat Road. The first section of five miles was completed and work on the other two sections well advanced. Rupees 47,457 were spent on this work. The alignment of the Nadanur-Amerdi Road was selected and the Forest Engineer completed this field work in connexion with the Ṭekkadi tram trace This trace has lately been inspected by the Forest Commissioner, and the Forest Engineer has been directed to prepare detailed estimates and plans. A practicable trace has been found by which it will be possible to transport timber from the forest to the Anamalai Road, where there will be a station on the proposed Dindigul-Palghat line, and the project is expected to be a remunerative one. The estimates will be submitted to Government with a report as soon as they are received. The Forest Engineer also revised plans and estimates for the Mount Stuart Ghat Road which have since been approved by Government. In all 403 miles of forest roads and bridle-paths were constructed during the year.

8. *Miscellaneous works.*—The expenditure under this head decreased from Rs. 12,279 to Rs. 7,876. The chief works consisted as usual in fencing compounds and reserves and constructing and repairing tanks and wells. In the Javadis an attempt was made to improve the water-supply by means of tube wells. The work was chiefly in the hands of the Agricultural Engineering department, and it is reported that little progress was made as owing to their dread of fever it was difficult to keep the subordinates on the hills.

(3) *Protection of Forests.*

9. The following table compares the forest offences reported during the year with those of 1915–16 and with the average of the three years ending with 1915–16:—

—	Injury to forest by fire.		Unauthorized felling.		Unauthorized grazing.		Other offences.		Total.		Average for three years ending 1915–16.
	1915–16.	1916–17.	1915–16.	1916–17.	1915–16.	1916–17.	1915–16.	1916–17.	1915–16.	1916–17.	
A. Cases taken to court ..	92	50	5,033	4,275	2,052	1,596	341	296	7,518	6,217	6,762
B. ,, compounded ..	44	86	14,401	13,782	5,634	5,313	661	781	20,740	19,962	22,823
C. ,, undetected ..	1,609	1,217	504	419	505	257	9	15	2,627	1,908	2,149
Total ..	1,745	1,353	19,938	18,476	8,191	7,166	1,011	1,092	30,885	28,087	31,734

It will be seen that the total number of offences reported is 2,798 less than in the preceding year and 3,647 less than the average for the three preceding years. This satisfactory decrease of crime is attributed to better supervision, to the satisfactory working of the patrol system and to the extension of forest panchayats and

the kancha system. Petty offences in kancha areas are left to the kanchadars to deal with. In Kurnool, cattle or goats when found grazing without permits in class V reserves, were merely impounded and no further punishment was inflicted.

10. Compared with the figures of the previous year, offences appreciably decreased in the districts of *Kurnool South* and *West*, *Bellary*, *Nellore*, *North Arcot*, *South Arcot*, *Salem* and *Madura*. The Southern Circle contributed 44 per cent and the Central Circle 33 per cent of the total number. Crime was heaviest in the districts of *Guntūr*, *North Vellore*, *South Arcot*, *North Salem*, *Trichinopoly* and *Madura* which together return more than a third (40 per cent) of the total offences in the Presidency.

11. Of all reported cases the percentages that were taken to court, compounded and undetected were 22·13, 71·08 and 6·79, respectively, against 24·34, 67·15 and 8·51 in the previous year. The total number of cases disposed of by Magistrates fell from 8,061 to 7,438. Of these 6,989, or nearly 94 per cent, ended in conviction; the corresponding figure for last year was 92·8. The punishments inflicted by the Magistrates were generally adequate except in *Kistna* and in several districts in the Central Circle especially *Chittoor*.

12. More than half the cases were compounded and the compensation fees realized amounted to Rs 1,76,368. The average fee per case was Rs. 9–7–8 against Rs. 9–13–6 in the previous year.

13. The rules laid down by Government in G.Os. No. 1990, Revenue, dated 15th July 1910, and No. 5958, Revenue, dated 14th December 1910, for the guidance of forest officers in compounding offences are reported to have been generally observed.

14. Rewards amounting to Rs. 772 were granted to informers and forest subordinates against Rs. 903 in the previous year. The Khonds in *Ganjām* were rewarded with rice and plough bulls in return for assistance rendered in the detection of forest offences. The Koyas and Reddis were given money rewards for similar services. Small rewards were given in several districts in the Southern Circle, but it is reported that on the whole the power of granting rewards was used sparingly.

15. *Fire protection.*—The season was favourable for protection against fires and there was a decrease in the number of offences and in the area burnt. Instances of deliberate incendiarism occurred in the *Anantapur* and *Cuddapah* districts, and in some cases reserves were closed to grazing, grazing fees enhanced and the privilege of free removal of grass withdrawn. Similar penal measures are reported to have had a beneficial effect in the *North Coimbatore* division. The area over which special protection was attempted was 7,213 square miles, of which 861 square miles were burnt, a percentage of failure of 11·9 as compared with 17 of last year. The cost of successful protection per square mile was Rs. 18–4–8, against Rs. 20–12–7 in the previous year.

The forest village system in the Javadis, under which the villages are granted various privileges, including free grazing, in return for the protection of the forests, was further developed and worked well during the year and this system will be extended to other areas as opportunity offers. In *Kurnool* the Chenchus were successfully employed on fire protection and in *Gōdāvari* and *Coimbatore* the co-operation of the hillmen was secured in preventing fires.

In addition to the areas specially protected the ordinary staff attempted to protect 8,748 square miles against 9,309 square miles in the previous year. Of this area 8,404 square miles were successfully protected.

16. *Protection from cattle.*—In all new working-plans special attention is being paid to the question of grazing, with a view to minimizing hardship to the ryots, while improving the grazing and protecting the forests from the damage done by overgrazing. The kancha system in *Nellore* continued to develop, and a Special Deputy Collector, M.R.Ry. A. Ramanuja Achariyar, was again placed on special duty for three months to popularize the system and encourage its growth. The late Mr. M. F. Arbuthnot, whose death on 26th May 1917 is a heavy loss to the department, deserves much of the credit for the development of kanchas in *Nellore*. Attempts are being made to introduce the system into the adjacent district of *Chingleput*. When statistics of cattle and the 'grazeable' areas are carefully examined, it is

usually found that the area available for each head of cattle is quite insufficient to maintain them in condition. A restriction in the number of cattle grazing in the reserves is essential as pointed out in paragraph 5 of G.O. No. 246, Revenue, dated 26th January 1917. The best method of effecting this in each locality is receiving careful consideration; but in view of the past history of the subject many years must elapse before the problem is solved. The forest panchayats, the kanchas of *Nellore* and the forest village system will all relieve the situation when they are practicable and a gradual enhancement of the present nominal grazing fees coupled with more effective supervision should, in time, reduce the excessive number of useless animals now kept by the villagers. The fees charged by Government are considerably lower than those charged by private individuals for grazing. In a forest reserve in *Guntūr* which was sub-leased by a private individual a fee of one rupee per month per cow was demanded and was paid without demur. The fees charged by Government run from 4 annas to 12 annas per annum. It is reported that steps have been taken in several districts in the Southern Circle to formulate grazing schemes, which it is hoped will after a time reduce the very large incidence which is now prevailing. In the meantime efforts are being made to diminish the friction between the department and the people, as will be seen from the fact that the number of cattle impounded during the year showed a decrease of 32,641 compared with the previous year.

17. The total number of animals licensed to graze on payment fell from 3,875,000 to 2,704,959. The Central and Southern Circles contributed to the decrease, the main cause of which was the transfer of a number of reserves to panchayat management.

18. *Protection against injuries from natural causes.*—Spike continued its attacks upon sandal in *North Salem*, *Trichinopoly*, *Kollegal* and *North Coimbatore*. Mr. Hearsey, Extra Assistant Conservator of Forests, continued his investigation into the insects usually found on sandal with a view to seeing if this would throw any light on the manner in which the spike disease is propagated. Doctor Coleman of Mysore has been asked to report on his work. Good progress has been made in the eradication of lantana in the areas under working-plans in *North Malabar* and in three divisions in *Coimbatore*. Under the orders of Government (No. 987, Revenue, dated 3rd April 1917) Mr. T. A. Whitehead, Deputy Conservator of Forests, was deputed to report on Mr. Tireman's scheme for the eradication of lantana in Coorg. Mr. Whitehead's report on the subject was circulated to all Conservators of Forests and District Forest Officers for information. Hybloea were noticed in the teak plantations of the Nilambur range and generally in the Amarampalam range, but owing to the heavy rains of October and November last little damage was done. Loranthus in the *Hardwickia binata* forests of the Yerramalais in *West Kurnool* division is reported to be a serious and increasing pest and no measures have yet been devised to combat this evil, the lopping of branches affording only a temporary relief. The *South Arcot* district was the centre of the very violent cyclone which occurred on the 22nd November last and uprooted a large number of trees in the reserves. Far greater damage was done to the forests of *South* and *West Vellore* forest divisions, where sandal and other trees were uprooted by thousands.

Sylviculture.

19. *Natural reproduction.*—Owing to a favourable season, assisted in some parts by the seeding of bamboos, natural reproduction was satisfactory, especially in the case of sāl in *Ganjām* and *Hardwickia binata* in *Kurnool*, *Bellary* and *Guntūr*. In *Cuddapah* red sanders coppiced well and reproduction in *Chittoor* was satisfactory. Sandal reproduction was good throughout the chief sandalwood areas. Favoured by bamboo seeding, hopea reproduction in *South Kanara* was good.

20. In *Kurnool*, the teak plantations established for the purpose of providing labour for the Chenchus were maintained and an additional area of 45 acres was planted. Small additions were made to the teak plantations in *South Malabar*. In many cases improvement fellings and tending operations were carried on in accordance with the working-plans. Cultural operations were carried on over a total area of 11,093 acres, compared with 2,376 acres in the previous year, and regular planting was done in one hundred acres at a cost of Rs. 5,411.

21. The Board is considering the question whether more planting should not be undertaken by the department, care being taken to avoid the waste of money which undoubtedly occurred in the past by concentrating effort on favourable localities and insisting on a proper continuity of policy. The Nilambur plantations show what can be done when these conditions are fulfilled.

22. *Operations for the improvement of growing stock.*—The operations undertaken during the year consisted, as in previous years, of improvement fellings, thinnings, fencing, creeper-cutting, the removal of inferior species, dead and dying trees, parasites and noxious growth and weeds, the building of stone walls in a few places to protect the forests from fire and the bunding of streams. A considerable amount was spent on thinnings in the Nilambur teak plantations, according to programme, and light improvement fellings in favour of hopea were carried out over considerable areas in the North and South Mangalore forest divisions.

(5) *Exploitation.*

23. *System of management—Major produce.*—The various methods of exploitation of major produce were, as in previous years, clear or regeneration fellings, thinnings, selection fellings and improvement fellings and coppice fellings. Clear or regeneration fellings were carried out in *Ganjām, Kurnool West, South Arcot, Trichinopoly* and *South Malabar*. Thinnings were carried out in *Gōdāvari Lower* only and selection fellings were made, as usual, in timber coupes or where it was found necessary to eliminate dead and unsound trees. Improvement and coppice fellings were undertaken principally in fuel coupes and in a few timber coupes and bamboo areas. Unregulated fellings under the permit system were confined to Rampa in *Lower Gōdāvari* and to some unreserved lands under the control of the Revenue Department. In reserves this antiquated system was applied only to the extraction of small timber and fuel in The Nilgiris.

24. *Minor produce and fodder grass.*—Minor produce was generally leased out. Bamboos were removed on permits in six divisions in the Western Circle to meet local demand and for use in floating timber. The manufacture of catechu in *North Mangalore* and the collection of miscellaneous produce in *Kurnool West*, in parts of *Nellore, The Nilgiris* and *South Coimbatore* were carried out by departmental agency. Permits were issued in several districts for the removal of manure leaves, stone and gravel, etc. In the *Kurnools*, the Chenchus were employed on the collection of minor forest produce and bamboos and bamboo splits from areas not leased out. In *Ganjām* the enjoyment of fruit trees was generally left to the Khonds. The right to collect cassia barks (*Cassia auriculata* and *fistula*) was leased out, except in *Gōdāvari Upper* and in parts of *Kurnool East* where the collection was made by the Chenchu agency. In the Central and Southern Circles *Cassia fistula* (rela bark) was leased out for the first time in all districts. Fodder grass was leased out in *Gōdāvari Lower, Kistna* and in parts of *Central Coimbatore*, and removed on permits in *Madura*, in the Beypore tope in *South Malabar, The Nilgiris*, parts of *Central Coimbatore* and in the other divisions of *Coimbatore*. In *Tinnevelly* grass was as usual included in minor produce leases. Ryots were allowed to cut and remove grass from reserves in all districts, except in parts of *North Cuddapah, Anantapur* and *Nellore*, where the privilege was withdrawn because the villagers had failed to assist in putting out fires, in *South Salem, Trichinopoly* and in three divisions of *Coimbatore* and *Malabar* where there was no demand. In *North Coimbatore* the concession was allowed on the understanding that the privilege would be withdrawn on the occurrence of fires. The free removal of thatching grass was allowed in the two *Mangalore* divisions and parts of *The Nilgiris*. In *Bellary* 860 tons of hay were cut on contract, against 450 tons in the previous year. The Military Department held leases of areas in *Bellary, Anantapur, West Cuddapah* and *North Vellore* at Rs. 2 per ton of hay removed.

25. *Hay-making.*—No hay-making operations were undertaken by the department during the year.

26. *Grazing.*—The revenue from grazing and fodder grass, Rs. 7,03,869, was higher than in the previous year by Rs. 17,298. The increase in the Western Circle (by Rs. 21,251) was chiefly in *North Coimbatore*, where the fees were doubled as a punitive measure for incendiarism. This was counterbalanced by a decrease in the

Central Circle, where it was due chiefly in *Bellary* to the handing over of class V reserves to forest panchayats and in *Guntūr* to the exclusion of goats from all reserves and sheep from certain reserves.

27. *Agency of exploitation.*—The subjoined statement compares the outturn through all the agencies of timber, fuel, bamboos and minor produce with that of the preceding year :—

Agency of exploitation.		Timber including sandalwood (in thousands of cubic feet).		Fuel (in thousands of cubic feet).		Bamboos (value in rupees).		Minor produce including grass and grazing (value in rupees).	
		1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.	1915-16.	1916-17.
By Government agency.	Northern Circle ..	271	125	649	260	4,523	2,659	8,314	5,340
	Central Circle ..	20	11	24	56	13	75	8,487	12,575
	Southern Circle ..	17	25	71	38	289	640	533	1,402
	Western Circle ..	309	383	621	661	5,772	4,896	20,518	13,451
	Total ..	617	544	1,365	1,015	10,597	8,270	37,852	32,768
By purchasers.	Northern Circle ..	907	914	4,075	4,365	1,41,664	1,45,301	2,74,819	2,75,990
	Central Circle ..	931	827	6,388	6,860	17,301	24,312	7,63,001	9,61,640
	Southern Circle ..	798	828	4,239	4,770	1,10,692	1,20,968	3,76,879	3,76,314
	Western Circle ..	379	928	3,219	3,480	35,841	41,275	1,37,368	1,58,057
	Total ..	3,015	3,497	17,921	19,475	3,05,498	3,31,856	15,52,067	17,72,001
By right holders.	Northern Circle ..	167	58	582	582	407	439	23,869	25,990
	Central Circle ..	..	..	..	..	167	..	138	127
	Southern Circle ..	..	..	..	..	..	..	1,115	1,051
	Western Circle ..	16	23	..	..	..	..	..	..
	Total ..	183	81	582	582	574	439	25,122	27,168
By free grantees.	Northern Circle ..	47	77	3	3	278	1,765	119	4,434
	Central Circle ..	48	59	..	..	..	77	313	741
	Southern Circle ..	19	38	3	4	454	480	5,819	3,324
	Western Circle ..	4	4	1	..	88	36	915	1,144
	Total ..	118	178	7	7	820	2,358	7,166	9,643
	Grand total ..	3,933	4,300	19,875	21,079	3,17,489	3,42,923	16,22,207	18,41,580

28. The quantity of timber and fuel and the value of bamboos extracted by departmental agency decreased, mainly in the Northern Circle, and is attributed to the extension of the contract system of working. This explanation does not seem to be quite convincing, as the quantity of removals by purchasers under these heads in the Northern Circle does not show any corresponding increase.

The quantity of timber removed by purchasers increased *slightly* in the Southern Circle and *largely* (by 245 per cent) in the Western Circle. The increase in the last-named circle was chiefly due to extensive sales of tree growth on darkhast lands, especially in *Mangalore North.* There was, however, a decrease in the Central Circle ; it is attributed to a fall in darkhast applications and to the fact that smaller quantities were extracted from improvement coupes in *West Cuddapah.* The quantity of fuel removed by purchasers increased in all the circles. Among the districts of the Northern Circle, it was due in *Gōdāvari Lower* to removals for munition purposes, in *Kistna* to the sale of three reserves and in *South Kurnool* to the sale of a larger number of fuel coupes than usual. In the Central Circle, the increase was due in *Bellary* to the sale of a larger number of fuel coupes and of more fuel in unreserved lands, in *West Cuddapah* to the greater quantity of fuel obtained from coupes leased out, and in *Chingleput* to the sale of withered and windblown trees. In the Southern Circle, the increase is attributed in *North Arcot* to the sale of a large number of trees blown down by the cyclone in November 1916, in *South Arcot* to the increased coupe sales and the sale of entire growth in reserves, and in *Tinnevelly* to an increased demand for firewood. In the Western Circle, the increase is attributed to extensive sales of tree growth, chiefly in *Mangalore North.*

29. The value of bamboos removed by purchasers increased in all the circles.

30. The value of minor produce extracted by departmental agency decreased in the Western and Northern Circles. The decrease was due in the former circle to a fall in the demand for bluegum leaves in *The Nilgiris* on the part of the Railway

authorities and to the extension of the lease system; in the Northern Circle the fall was due in *Kistna* to the disafforestation of the Karukollu reserve from which Divi Divi pods used to be collected departmentally, in *Kurnool East* it was due to the failure of the crop of soap nuts and in *Kurnool South* to the extension of the lease system. The increase which occurred in the Central Circle is attributed to a favourable season.

The value of minor produce removed by purchasers increased in all the circles except the Southern. In the Central Circle the rise was due to the sale of *Cassia fistula* bark and to the better prices obtained for tangedu leases in general. The increase of about Rs. 20,000 in the Western Circle is attributed to increased grazing receipts realized in *North Coimbatore*, where the grazing fees were doubled as a punitive measure for incendiarism. The variations in the other circles are small and call for no remarks.

31. The estimated value of forest produce removed by right-holders was Rupees 55,684 against Rs. 41,872, and of produce granted free and at reduced rate, Rs. 47,766 against Rs. 22,240. The increase in the value of forest produce removed by right-holders occurred chiefly in the Western Circle and was due in the *Mangalore* divisions to the removal on a larger scale than usual of reserved trees from kumaki lands and to the reduction from six feet to four of the minimum girth prescribed in the case of trees removed from such lands; in *South Malabar* the increase resulted from the grant of timber to the Uralan of the Tirukkaliyur devasam for repairs to a temple in accordance with the terms of the lease granted by him. The increase in the value of free grants occurred chiefly in the Northern and Southern Circles and was due to the large applications for rebuilding houses and huts damaged or destroyed by the floods in *Kistna* and *Kurnool* in October and November 1916 and by the severe cyclone of November 1916 in *South Arcot* district.

32. *Financial results.*—The following statement exhibits the financial results of the year as compared with that of the previous year and with the average of the preceding five years:—

Years.	Revenue.	Expenditure.		Total.	Surplus.
		A. Conservancy and works.	B. Establishments.		
	RS.	RS.	RS.	RS.	RS.
1916–1917	47,79,016	11,88,726	15,95,648	27,84,374	19,94,642
1915–1916	39,38,475	10,97,505	15,10,444	26,07,949	13,30,526
Average for the five years ending 1915–16.	40,72,347	14,75,520	14,99,308	29,74,828	10,97,519

The gross revenue was Rs. 47·79 lakhs and the expenditure Rs. 27·84 lakhs, leaving a net surplus of Rs. 19·95 lakhs, the highest yet recorded. This surplus was distributed over all the circles and was higher than that of the previous year by Rs. 6·64 lakhs. The Central Circle stands first, with a surplus of Rs. 8·28 lakhs and the Southern next with Rs. 7·66 lakhs against a surplus of Rs. 6·04 lakhs and of Rs. 4·61 lakhs respectively for the previous year. The Northern and the Western Circles show a similar surplus of Rs. 1·69 lakhs and Rs. 2·32 lakhs against Rs. ·73 lakh and Rs. 1·93 lakhs of the previous year.

This result is partly due to rigid economy and the postponement of necessary expenditure owing to the war and also to an increase in the revenue from sandalwood, to the leases of *Cassia auriculata* and *Cassia fistula* which had not been sold for five years and also to the sale of reserved forests which had been given up. The expenditure on 'A. Conservancy and Works' increased from Rs. 10·98 lakhs to Rs. 11·89 lakhs and that on 'B. Establishments' by Rs. ·85 lakh. As soon as favourable conditions return, a much larger expenditure will be necessary under both these heads.

33. *Research and experiments.*—The most important research work carried out during the year was in connexion with sandalwood which forms so important an item of revenue in the Southern and Western Circles. As already stated in paragraph 18 supra Mr. Hearsey, Extra Assistant Conservator of Forests, continued his investigation into the pests to which sandal is usually liable. Experiments were carried out during the year with red-sanders wood, under the guidance of Mr. E. Marsden, the

Imperial Sylviculturist, who visited the *South Cuddapah* division. Mr. Marsden laid out three sets of sample and experimental plots to determine the girth increment and development of heavily thinned red-sanders plantations and the condition best suited for the natural regeneration of the species. The Conservator, Central Circle, will be requested to report the result of these experiments. Experiments were carried out with the same timber by the Director of Industries, United Provinces, with a view to determining the existence of the dye known as 'santalin.' The experiments were, however, not successful as it was found that though the wood was of good quality, its utility was limited, the dye principle being insoluble in water and giving dull red to brown shades. Two varieties of myrobolams were sent from certain reserves in the *Chingleput* district to the Forest Economist, Dehra Dun, so that their tannin properties might be tested. Their quality is reported to be of the poorest. The tannin properties of the barks of the Australian wattles known as *Acacia decurrens* and *Acacia dealbata* in *The Nilgiri* plateau have been tested and while the former, which is scarce, is acknowledged to be a valuable tanning agent, the *dealbata* which is found in abundance on the hills, was found to be comparatively useless. The Conservator, Western Circle, expresses the hope that this variety perhaps awaits the discovery of the proper method of using it. The Euphorbia wood of the Paranur reserved forest in the *Chingleput* district was tested by the Director of Industries, Madras, to determine its utility for paper manufacture. The Conservator will be requested to report in due course the result of this experiment. In connexion with Messrs. Nelson & Co.'s scheme for the establishment of a bamboo pulp factory on the West Coast, the Conservator, Western Circle, has recently furnished to the Board a revised estimate of the cost of delivering bamboos. He reports that the results are favourable to the project, which, it is hoped, will be revived after the war. Thinnings of bamboo clumps are being conducted in certain reserves in various divisions of the Southern Circle. The Conservator, Southern Circle, states that, though it was first thought that the results would be harmful, more recent observations tend to show that the number of new culms produced on the thinned clumps is larger than those on the unthinned and that working becomes much easier. The result of the examination and analysis at Dehra Dun of sandalwood from South Kanara has confirmed the previous dictum that this wood is much the richest in oil in the market. The experiment of destroying creepers by painting with lime has not produced appreciable results either in the Northern or Western Circle, but is being continued with the addition of sulphur, in one or two places in the former circle. The experiment of inoculating *Butea frondosa* and *Zizyphus xylopyra* with lac culture was continued in the *West Kurnool* division and promises to be successful. Experiments are being made in *Ganjām* to see whether sal can be used for cask staves.

34. *Administration.*—The Hon'ble Mr. H. F. W. Gillman, I.C.S., was head of the forest administration from 1st July to 30th September 1916 and the Hon'ble Mr. M. E. Couchman for the rest of the year. The Hon'ble Mr. Gillman toured in the districts of *Salem*, *Coimbatore*, and *The Nilgiris* and the Hon'ble Mr. Couchman in the districts of *Coimbatore*, *Bellary*, *Kurnool*, *Cuddapah*, *Ramnad*, *Nellore*, *Chingleput*, *Guntūr*, *Malabar* and *North Arcot*. Mr. Gillman's inspection of *Salem* was in connexion with the reservation of the Attur unreserves. Mr. Couchman's visit to *Coimbatore* in October 1916 was made in connexion with the sale of elephants at Walayar, which was attended by His Excellency the Governor. In *Bellary* questions connected with the formation of panchayats claimed his attention, and in *Nellore* he went into the methods of collecting tanning barks and the working of the kancha system of grazing. In *North Arcot* he discussed with the local officers the subject of the assignment of land in the Yalagiris to the Malayalis. At Calicut the Forest Commissioner inspected and prepared a short note on the Temporary Assistant's work in connexion with the seasoning of such of the indigenous soft woods as might take the place of the imported deals. A copy of the Forest Commissioner's inspection note of the forests in the Ramnad district has already been submitted to Government.

35. Messrs. H. B. Bryant and P. M. Lushington were in charge of the Central and the Southern Circles throughout the year. Mr. F. L. C. Cowley-Brown was in charge of the Northern Circle until the 4th November 1916, when he had to take leave on account of ill-health. He was succeeded by Mr. H. A. Latham, who held charge of the circle for the rest of the year. The charge of the Western Circle was

held by Mr. H. A. Latham up to 27th October 1916 and by Mr. C. D. McCarthy for the rest of the year. The Conservators inspected all the District Forest offices, except those of *Cuddapah*, *Chittoor*, *Madura*, *Trichinopoly* and *Kollegal*. The Conservators also recorded inspection notes of the forests visited by them in the districts of *Bellary*, *Chittoor*, *North and South Vellore*, *South Salem* and *Trichinopoly*. The Conservator, Western Circle, inspected the forests of *North Mangalore*, *North and Central Coimbatore* and parts of *The Nilgiris* and *South Coimbatore* but has so far submitted no inspection notes. He has been requested to do so. All District Forest officers, except the District Forest Officer of *South Malabar* spent a sufficient number of days in touring and the short touring of the excepted officer has been satisfactorily explained. All Range offices, except two in each of the divisions of *Upper Gōdāvari* and *Central Coimbatore* and one in each of the divisions of *West Kurnool*, *South and West Cuddapah*, *Nellore*, *North Salem*, *Trichinopoly* and *South Coimbatore*, were inspected by the District Forest officers. The accounts of District Forest offices, except those of *South Arcot*, were inspected by the auditors of the Accountant-General's office and the results were reported to be generally satisfactory. In addition the accounts of five forest divisions in the Western Circle were inspected by the Assistant Accountant-General with equally satisfactory results.

36. The position of the District Forest Officer as the head of his department in the district was defined in G.O. No. 2732, Revenue, dated 2nd December 1916. The consequential amendments to the Forest Code, including the appointment and control of the clerks in the District Forest office, are now under the consideration of Government.

37. All the forests of the Presidency have now been classified in accordance with the recommendations of the Forest Committee. There has been a satisfactory increase in the number of panchayats, which now number 290 as compared with 147 last year. The area under management is now about 479 square miles of reserved forests and unreserved lands which have been declared reserved lands for purposes of panchayat management compared with 210 square miles last year. The panchayats are reported to have worked well on the whole. The chief irregularities reported were overgrazing, browsing by goats, illicit felling of trees and removal of leaves for manure. Only three panchayats are reported to have been dissolved and the area under their management resumed on account of misconduct.

38. During the year Mr. L. Saunders, Assistant Superintendent of Police, was appointed 'Special Chenchu Officer' in the Kurnool district. His duties are to gain the confidence of the Chenchus, secure suitable employment for them, and prevent crime. Hitherto the Forest Department has found employment for the members of this tribe but it is reported that there is not much scope for the extension of the teak plantations. It is therefore hoped to induce them to take to settled cultivation. Land has been set apart for them near various villages, and it is proposed to buy ploughing cattle for them. In *East Kurnool* the District Forest Officer Mr. Madan has taught them how to make bamboo splits. It is proposed to introduce this into the more troublesome gudems of West Kurnool and thus provide them with steady work for a good part of the year. Since the Chenchus have been getting good pay from the Forest Department, it is reported that they have changed their diet, which used to consist chiefly of wild roots, and now eat ordinary food-grains. This change of taste should form an inducement to them to settle down on the land and cultivate it.

In future any rewards paid to them will be for general good behaviour, and the policy of giving them daily wages for putting out fires which in most cases they have lighted themselves, will be abandoned. Mr. Saunders was only in charge for a few months of the year under report, but his services were often requisitioned to stop drunken brawls among the Chenchus and no serious crime occurred.

39. Mr. A. W. Lushington, C.I.E., retired Conservator of Forests, was employed as Special Assistant to the Forest Commissioner to investigate the possibility of more commercial exploitation of the forests. He entered on his duties in December 1916 and has been working mainly in the Western Circle, conducting seasoning experiments with various timbers and preparing a scheme for the exploitation of the West Coast forests, which contain large quantities of soft woods, at present almost unknown to the market.

It is clear that as soon as conditions permit much more direct exploitation will have to be undertaken by Government. Private firms are not willing to invest large sums of money in the tramways, sawmills and other plant, and without these the more remote forests will remain unexploited. Little, however, can be attempted till the staff of the department has been strengthened, as the present staff is insufficient for the present lines of work. This is engaging the attention of Government.

40. A new departure was made in the transfer of the Revenue administration of the hill villages in the Javadis to the Forest Department. These villages are more frequently visited by the Forest officers than by the Revenue Divisional officers and the forest revenue is far greater than the land revenue. It is hoped that the change will be beneficial both to the people and the Forest Department.

41. During the year proposals were submitted to Government for the reorganization of the subordinate staff of the department, of the inadequacy of which the Government are aware. The division of *Cuddapah* into three charges (sanctioned in G.O. No. 214, Revenue, dated 25th January 1917), was given effect to from 1st April 1917, and the division of *North Arcot* into three forest charges (sanctioned in G.O. No. 53, Revenue, dated 8th January 1917) was also given effect to from the same date. The proposal to form a fourth division in the *Kurnool* district was abandoned and the Collector has been requested to formulate proposals for the formation of a subdivision instead. During the year the Board has approved of the proposal of the Conservator, Southern Circle, to abolish the *Trichinopoly* forest charge and to form a new forest charge in *Salem* as soon as the District Forest Officer divests himself of the charge of the plain forests.

42. The work of the superior officers of the department has been generally satisfactory. By the sudden death of Mr. H. F. Arbuthnot, District Forest Officer, Nellore, the department has lost a very energetic and conscientious officer. The success of the 'kancha' grazing system in *Nellore* is largely due to his enthusiasm and untiring exertions.

M.R.Ry. Rao Sahib K. Gundu Rao, Forest Assistant to the Board of Revenue and a faithful servant of Government, died in September while on leave.

43. *The Forest College, Coimbatore.*—The college continued to work satisfactorily. Out of the 29 students who appeared for the final examination one, a Government student, won the honours certificate and carried away most of the prizes. Nineteen obtained the higher standard certificates and eight the lower standard, and only one failed to qualify for any certificate. The final examinations in all the subjects were conducted by examiners from outside the staff of the college. The examiners' remarks go to show that a good deal of attention was paid to practical training, but that some of the students were lacking in the power of expression. The examiners have suggested modifications in certain directions and the Principal will give effect to them as far as practicable.

The 1916–18 division started in August 1916 with 34 students. The Conservators showed discretion in their selection of candidates and, in the light of the instructions given last year, the Principal weeded out seven candidates who were found unfit to continue under training. There thus remained 27 in residence at the close of the year.

The Gass Forest Museum attached to the college continued to attract a large number of visitors. The members of the Industrial Commission while at Coimbatore visited it.

44. *General rules under the Forest Act.*—The working of the timber and sandalwood transit rules was satisfactory. The Conservator, Central Circle, considers that the extension of the rules to all districts in the circle is desirable if an efficient check over the removals of forest produce is to be rendered possible. The Conservator, Southern Circle, also considers that the introduction of such rules in some districts is necessary to check the smuggling of sandalwood. The people generally availed themselves of the privileges allowed by the rules under section 26 of the Forest Act and there were no complaints of any importance, except from the Attur range of the *South Salem* division, where large quantities of fuel were being smuggled in from the Paithur unreserves.

45. *Improvement of water-supply in Government grazing grounds (G.O. No. 1622, Revenue, dated 4th June* 1914).—In the Northern Circle two tanks were repaired and a well was sunk in *Lower Gōdāvari.* In other districts no such works were carried out, chiefly on account of financial restrictions. In the Central Circle the existing wells were repaired and improved in *Anantapur, Guntūr* and *Nellore.* In *Chingleput*, a philanthropic ryot was permitted to repair a tank in the Kattugudalur reserve. In the Southern Circle the bunding of streams in three reserves in *North Vellore* was carried out. Similar work was entrusted to the Malayalis of the Chitteris in *South Salem* who were given a lump sum for the bunding of the main streams in those hills. Tanks were repaired in *South Arcot* and *Trichinopoly* and the water-supply of a reserve in *Madura* improved. No measures in this direction were considered necessary in the West Coast districts, in the *Nilgiris* and *Central Coimbatore*, except in *Kollegal* and *North Coimbatore*, where for want of funds nothing was done, and in *South Coimbatore*, where the grazing question still remains unsettled.

46. *Opening of small coupes in the vicinity of villages for rural supply—paragraph* 20 *of the orders of Government on the Forest Committee's report.*—The Conservator, Northern Circle, reports that coupes in convenient localities were sold to contractors to meet the wants of the people. In the Central Circle, coupes were opened wherever there was a local demand. In the Southern Circle, sale of coupes at the edge of forests was attended to by coupe contractors. In the Western Circle, no such measures were considered necessary as the demand for fuel was met from coupes sold to contractors and other sources.

47. *Patrol system—paragraph* 22 (1) *of the Government Order on the Forest Committee's report.*—In the Northern Circle, the patrol system has been introduced in all districts except in *Upper Gōdāvari* and its working is reported to be satisfactory except in *Gōdāvari Lower* and *Kistna.* In *Kurnool West*, the system is reported to have been exceptionally successful. In the Central Circle, the system is in vogue in the three Cuddapah divisions only and the working there is reported to be satisfactory. The system introduced in *Bellary* last year was abandoned as it proved unsuitable. In the Southern Circle, the system was continued in *North Vellore, South Arcot, South Salem* and in one range in *Trichinopoly*, but the smallness of the establishment prevents it becoming a real success. In the Western Circle the system which was introduced last year in one of the ranges in *Central Coimbatore* is reported to have been a success and to have resulted in the better protection of forests. It is not required in *Malabar* or in the two ranges of *South Coimbatore* and was not introduced in other divisions owing to the inadequacy of establishment. The Board looks forward to better success in the working of the system when its proposals for the reorganization of the subordinate staff are sanctioned and brought into force.

48. *Forest Conference.*—A conference was held by the Forest Commissione with the Conservators of Forests in February 1917 and various forest matters were discussed.

(True extract)

H. R. Pate,
Secretary.

To the Secretary to Government, Revenue Department, with appendices.

Order—No. 166, Revenue, dated 10th January 1918.

Forest No. 3.

Recorded.

2. *Paragraph* 3 *of the Board's Resolution.*—The appointment of a Special Forest Settlement officer for the reservation of unreserved lands in the Attur taluk of the Salem district is held in abeyance on account of the paucity of officers available for the work.

3. *Paragraph* 7 *of the Board's Resolution.*—Estimates and plans for the construction of the Nadanur-Amerdi road have been received and are under the scrutiny of Government.

4. *Paragraphs* 9 *to* 16 *of the Board's Resolution.*—The Government note with pleasure that the number of forest offences has decreased and that the extension of forest panchayats and the kancha system contributed to this reduction. The large decrease in the number of cattle impounded is very satisfactory.

5. *Paragraph* 37 *of the Board's Resolution.*—The number of forest panchayats has increased from 147 to 290 and the area under their management from 210 to 479 square miles. The classification of forests has been completed and the panchayats are reported to have worked well on the whole. It has been represented to Government that it is desirable to give forest panchayats a legal status and to empower village panchayats to try petty forest offences. The Board of Revenue is requested to consider and report on these points when submitting its report on the working of the forest panchayats for 1916–17.

6. *Paragraph* 39 *of the Board's Resolution.*—Pending the development of a Forest Engineering staff, Government propose to depute an experienced Forest officer to Canada to study modern methods of timber extraction and transport with a view to their application to the problems of this Presidency.

7. *Paragraph* 41 *of the Board's Resolution.*—The sanction of the Secretary of State has been received for the creation of the post of Chief Conservator of Forests in this Presidency and for the addition of nine other posts to the Imperial and ten to the Provincial cadres. The sanction is to be given effect to as funds permit and as recruits become available. The proposals for the reorganization of the subordinate staff are under the consideration of Government.

8. The Government note with satisfaction the Board's testimony to the work done by the superior officers. They record with regret the death of Mr. H. F. Arbuthnot and M.R.Ry. Rao Sahib K. Gundu Rao Avargal.

9. The Board's report which was due to Government by 15th November 1917 was not received in a complete form till 13th December 1917.

(True extract)

A. R. KNAPP,
Acting Secretary to Government.

To the Board of Revenue (Land Revenue, Forest).
,, Accountant-General.
,, Government of India, Department of Revenue and Agriculture (with C.L.).
,, Inspector-General of Forests (with C.L.).
Editors' Table.